University of Alberta

WAR AND FERTILITY

by

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A thesis submitted to the Faculty of Graduate Studies and Research in partial fulfilment of the requirements for the degree of Master of Arts

Department of Sociology

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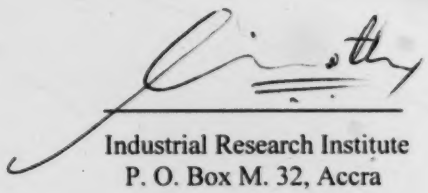

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dedicated to all members of the
department of sociology, both
professors and support staff
who have made me feel so
much at home far away
from home

ABSTRACT

This thesis concerns itself with an exploration of how fertility is affected by war. Most writers have attributed the postwar baby boom phenomenon in the West to economic recovery after the war. However, the argument is that based on an interpretation of Freud's psychoanalytic theory of the life and death instincts, psychodynamic factors also have a role to play in this type of phenomenon. The hypothesis of this study therefore contends that an increase in fertility during war or immediately after is due both to conscious and unconscious factors. The study analyses the time trends in vital statistics (i.e., births, deaths, marriages) before, during and after war for ten countries. An economic indicator is included to gauge the influence of changes in the economy on the vital statistics variables. This study also incorporates some cases of recent civil wars in developing countries as further evidence for the thesis concerning war and human fertility. The results of this analysis suggest that the predominant emphasis on postwar economic recovery as being the primary agent of changes in fertility trends is deficient. Rather, it is highly likely that psychological factors have played an important role in human fertility change, not only during times of war, but also immediately after. Further research on civil wars in developing countries will shed additional light on this phenomenon.

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CHAPTER ONE

INTRODUCTION

The objective of this thesis is to offer some empirical evidence of how war affects fertility, and to generate theoretical insights into this subject for further analysis. The thesis also seeks to develop a conceptual framework as a prelude to further research in this direction. While the emphasis is on the role of war in affecting demographic variables, it is acknowledged that the opposite may also hold true; demographic factors cause violence or war as in the case of population pressure and territorial expansion among conquering nations through history. A literature review suggests that much attention has been devoted by some demographers to postwar fertility trends, particularly in the industrialized world, attributing fluctuations in fertility mainly to economic factors. Little, if any emphasis has been placed in the literature on what happens to the desire for reproduction in humans under conditions of war and thereafter. This phenomenon, it is believed, deserves greater attention among demographers, who have generally neglected this question. What happens to human fertility during and immediately after war? What are the unconscious underlying motives for either reduced or increased fertility during times of war and thereafter?

This thesis begins with an introduction of a discussion of some views on the question of how demographic variables affect human conditions and which situations, in turn, predispose societies or nations to violent or hostile behaviour. This is followed by a discussion of how war affects demographic behaviours. These two contrasting viewpoints are intended to place this work into a much broader perspective and to provide a fair idea

of the topic under study.

Some Viewpoints on the Relationship between Population and War

Choucri (1974) sees the Malthusian, Marxist, and more recent social science views on population as differing significantly in their analysis of the population question and its relationship to conflict. The Malthusian thesis traces the origins of want, misery, and war to the relationship between population and resources. The simple proposition of Malthus (1959:5[1798]) that population increases in geometrical ratio but subsistence increases only in arithmetical ratio, and that "the power of population is indefinitely greater than the power in the earth to produce subsistence for man" provides a basis for linking population to war. The relationship is related to subsistence, needs, and wants, not to social, organizational, or political conditions. In Malthusian terms, war is dictated by rapid population growth and resource limitation. On the other hand, the Marxists negate the Malthusian premise by defining the problem of resource limitation in terms of distribution. According to them, if resources were properly utilized and distributed, the entire population of the world could subsist upon existing resources. The concept of excess population is, in principle, denied, as the precursor of war by the Marxists.

It is only recently that demographers have themselves become concerned with the political implications of added population. In part, they have drawn upon the arguments of political scientists and historians and upon the historical record in putting forth their views on population, power, and conflict. Much of what relates to population and war in the demographic literature can be summed up in the "demographic relaxation" thesis: When people feel constrained by limited space and resources, they tend to spread out.

This problem is often presented as an important determinant of international violence. At the same time, Choucri notes that this thesis has not yet been seriously examined or tested against recorded history.

The linkages most frequently cited in the literature in support of the view that population variables influence war are demands for food of a growing population, resource needs, the imperatives of technology, commerce, expansion, military competition and international tensions. However, there has been a tendency in the social science and demographic literature to regard means of subsistence as the critical variable defining the population problem (i.e., the Malthusian view). There is also a disposition to assume that food deprivation will, among other things, increase propensities for violence among nations. Other scholars (e.g., Ehrlich and Holdren, 1971; Choucri and North, 1972) also see the population issue in terms of size in relation to resources and the abilities of governments to satisfy needs and demands. They argue that the combination of added population and the scarcity of vital resources place added burdens on governmental capabilities, thus leading to a situation of endemic instability. According to them technological growth - the increased application of knowledge and skills - depends very heavily upon available resources. The greater the level of technology in a society, the higher are its needs in terms of mineral and energy resources. In the context of the population/violence thesis as described above, this simple fact has the following implications: technological growth increases a society's demands for resources, and, by extension, may increase the necessity for furthering economic growth to meet resource needs.

Some scholars on the other hand argue that propensities for violence may also arise as a function of a society's demand for resources other than expansion, namely, trade and investments. The general arguments may be summarized under the proposition that the demands of a population lead to increases in resource needs which, in turn, lead to greater competition for resources. This competition tends to strain commercial relations which may increase international tensions between groups or states. Two consequences may ensue: either states turn inward or they pursue externally the quest for resources. Therefore, propensities for violence and organized armed conflict are associated with the second of these alternatives (Choucri, 1974:35). In summary, it may be argued that wars of national expansion, though generally viewed in terms of territorial gain, often illustrate the Malthusian thesis that aggressive external behaviour is occasioned by high rates of population growth, which places pressure upon scarce resources, and necessitates outward movement in search of the needed materials.

However, Choucri observes that the capacity of technology to modify the direct population/resource calculation has invalidated much of the simple Malthusian thesis and he notes that empirical realities have proved more complex. As an example, he cites Nazi Germany and Imperial Japan, which are commonly viewed as classical cases of the dynamics posited by Malthus and had large populations relative to the European powers. According to him, they were also advanced technologically, a situation which placed greater demands upon resources, accentuating the resulting scarcities. Technology thus exacerbated both the need and the capacity for expansion outside territorial boundaries.

But as with most demographic phenomena, this study observes that the situation

in developing countries differs markedly. The more common outcomes associated with population pressures in developing countries are more less of expansion than internal turmoil. The dynamics in question appear to be that at first, a high rate of population growth and the pressure it places upon resources make a developing country more assertive, possibly leading to costly external expansionist probes. Therefore, pressure upon resources is never the sole determinant of external expansion; other causes, often of a highly political nature, are always at work. Nonetheless, it is almost always important and a critical factor - the population size of the expanding country is invariably far larger than that of the target state (e.g., the case of Iraq's invasion of Kuwait which resulted in the 1989/90 Gulf War).

Generally, however, one can safely argue that conflicts of national expansion tend to be most often initiated, among other things, by pressures upon resources, which had been generated in turn by a large and growing population and exacerbated by an inadequate level of technology. A large population and superior skills are conducive to expansion into frontier areas. In addition, such an expansion may be predicated upon a greedy or strategic desire to control a large amount of valuable resources. As for example, the discovery of oil in 1956 greatly increased French concern for maintaining control over Algeria, and in Angola the colonial population is concentrated primarily around deposits of mineral resources. The 1989 invasion of Kuwait by Iraq was motivated by the desire of the latter to control a greater proportion of the oil resources in the Gulf region out of greed as well as for strategic purposes.

War and Fertility:

It would seem therefore from above that demographers' attempts to examine the relationship between war and population variables have focused mainly on the fact that added population is a potential source of violence (e.g., Ehrlich and Ehrlich, 1970; Sharma, 1970). The other side of the equation with respect to the effect of war on demographic variables, with specific emphasis on war and fertility, is discussed in this, and subsequent sections. As already stated, there is a lack of research directed at uncovering the underlying psychological motivation of fertility behaviour during war and immediately after. The central thesis of this study is that during a period of war, in addition to the usual social, economic and cultural factors, fertility is also influenced by unconscious psychological factors under two possible scenarios, described below.

The Disruption Thesis

Under the first scenario, which is referred to as the disruption thesis, it is envisaged that with the onset of war, human fertility goes down because social life is threatened or disrupted. Couples are separated, as many young men of marriage age are drafted to serve in the military. Couples who remain unseparated during a period of war also may decide not to have babies due to the uncertainty of war conditions and the future. Among those who conceive, there may be high incidence of spontaneous abortions as a result of the traumas which often accompany war. War often creates the displacement of people; out-migration from the war zone is a typical response among humans in the midst of hostilities. Immediately after the end of the war, when a state of normalcy has been restored, fertility would begin to rise to usual levels and even in some cases, above

pre-war conditions. In fact, from recent history, it is known this did occur in a number of Western nations after World War II. This scenario is presented in Figure 3. This study posits that all countries that engage in war will experience this kind of phenomenon.

Fertility Behaviour During War and After

Under a second scenario (which is identified as a special case of the first scenario), it is envisaged that in the early stages of war, fertility reduces for the same reasons as stated under the first scenario. If war is prolonged, fertility may slide even further. But it is also possible that under certain conditions, during the course of hostilities fertility will rise, and this situation may persist into the postwar period, before finally stabilizing. This scenario is presented in Figure 4.

The second scenario will most likely manifest itself under two conditions. First, an oppressed or conquered nation which finds itself on the verge of being decimated in a prolonged war with an enemy nation or group will resort to large family sizes even in the midst of war to assert itself and keep the society alive. The case of Sarejevo in Bosnia where there were reportedly high incidence of births in the midst of the war (see Nuovo Mondo, 1995) represents a good example of such a phenomenon. Having large family sizes will represent some expression of defiance on the part of the conquered of the oppressor or conqueror. Second, a minority group that finds itself oppressed by a majority group within the same society, economically or politically, will also respond in similar manner to consolidate or strengthen its political base or power since power or strength is generally equated with numbers. This tendency is supported by the several studies (e.g., Day, L, 1968; Kennedy, R. E., 1973) which reveal the high fertility rates of minority

groups as compared to the low fertility rates of their majority or dominant counterparts. This view is also shared by Khlat and associates (1997) in their study of fertility levels and differentials in Beirut during the wartime. These authors note that at the community level, a possible strategy was to have more children, as size was a decisive element in the struggle for political power and at the individual level, large families would have been regarded as providing emotional support in adverse conditions during the period of the war.

At the same time, this study differentiates between the effects of war on fertility in countries such as Japan, France, Italy and some other European countries which were actively engaged in war on their own territories and countries such as the United States, Canada, Australia and New Zealand which fought in wars outside their respective territorial boundaries. Under these two different situations, the political, social and economic conditions underlying the two scenarios described would likely not be the same for all of these countries and would account for some variations in fertility trends and how long these trends are sustained. Factors such as the period of economic depression following the First World War and the stage of the fertility transition which a particular nation had reached prior to war would also account for some variation in fertility.

War, Marriage and Fertility

Francis Ronsin (1995) points to the inadequate attention paid by researchers to the unconscious motives surrounding human fertility during and after war in an insightful review of some of the studies done in this area by Bourgeois-Pichat and Ibarrola in respect of French nuptiality rates within the context of France's engagement in the

Second World War. Ronsin observes first that demographers have never paid enough attention to the impact of wars on marriage trends. According to him, when authors mention this issue, they have generally just noted that the mobilisation and detention of men have reduced marriage rates. But this interpretation totally neglects the emotional effects on people of the political and combat situation. Ronsin's argument is that the psychological effects of fighting and even the threat of conflict has influenced marriage rates and fertility.

In his paper, Ronsin notes that in November 1945, Bourgeois-Pichat published in the fourth issue of Papers of the French Foundation for the Study of Human Problems the result of his study on the "*Evolution of the French Population from 1939-45*" which showed that between 1939 and 1944, French nuptiality was marked by a passage from low-marriage generations to the age of maximum nuptiality; and also, from 1930 to 1938, French nuptiality saw some unusual hike. In 1939, there was a sharp reduction in marriage due to the mobilisation, and nuptiality rates climbed slightly in 1940. This is followed by a gradual rise to its highest point in 1942. However, he notes that the 1942 figures were made possible by marriages which had been deferred earlier due to the war. A decrease of 17 percent was reported in the number of marriages in 1943. Ronsin notes that this important variation which surpasses by half the figure following immediately after the mobilisation, is due in part to the departure of workers to Germany. Ronsin sums up Bourgeois-Pichat's article thus: "In this article, the reflection on the consequences of the war on nuptiality is limited, in fact, to the blaming of massive population transfers ...." (p.121).

Ronsin also discusses the thesis published by Jesus Ibarrola in 1964 under the title: The Effects of the two World Wars on the Demographic Evolution of the French People. He criticizes the lack of scientific rigour in this study, though he credits Ibarrola with having taken into consideration the war which he divides into three periods: (1) the 1939-40 campaign which, according to him, mirrors the situation in 1914 to 1918 (mobilisation of the whole army with the view to fighting a protracted war); (2) the period of occupation and resistance - a popular, national war which involves all the ages, sexes, and people of all conditions; and (3) the liberation, which could be seen by those allies and the French who rallied behind General de Gaulle as a phase of a classic war.

To these three stages (periods) correspond two types of modifications in nuptiality. Ibarrola notes that it is the classic war which exercised the most influence on people and explains the deficit in marriages recorded in 1939-40 and again in 1944. Ibarrola tries to account for the intermediary period which saw the highest rates of nuptiality by stating that the obstacles due to depopulation could be opposed by the vitality of the French youth. Ibarrola argued that the French youth undertook to get married during these difficult times in part, to assert their belief that all was not lost and that they could still take up their destinies in their own hands and fashion them. But more importantly, Ibarrola opined that the French youth believed that by getting married in those difficult times, they would be able to defend themselves better against adversity (in this case enemies of France).

According to Ronsin, in evaluating the evolution of the state of mind of the French people during the Second World War, one would have to take into account more

than the simple fact that the absence of many young people led to a reduction in the number of marriages. To prove this point, Ronsin cites as examples, two other conflicts, which later led to large deployments of French soldiers in both cases - the Algerian War and the Gulf War, neither of which presented the characteristic traits of traditional warfare. These cases served to confirm what common sense, contrary to historical demography, could lead us to believe, that in addition to the large movements of young people that resulted from it, the Second World War brought about other forms of anguish such as high levels of mortality and many war-related illnesses which could have led to a reduction in nuptiality.

In this study, an attempt would be made to explore further Ronsin's analysis within the context of Freud's psychoanalytic theory of the life and death instincts. It is suggested as the central proposition of this thesis that in addition to conscious economic, cultural and social factors that affect fertility behaviour, unconscious psychological factors play an important role in reproductive behaviour in times of war or during the period of recovery after war. These unconscious factors would manifest themselves in several ways, as for example, through increased sexual activity as a result of sexual deprivation during war and also, through increased marriages resulting from economic recovery after war. This thesis contends that the underlying motive which reinforces these activities is the desire to exalt life (i.e., to seek re-birth) after a period of suffering, death and destruction.

CHAPTER TWO

PSYCHOANALYTIC THEORY AND THE POST-WAR BABY BOOM

This chapter would seek to establish that the baby boom represents an example of the thesis that after a prolonged war of large proportions such as in the Second World War, society begins to undergo a process of rebirth. This process, it is argued, has conscious and unconscious dimensions and possibly, a combination of both. At the conscious level, society attempts to revive the economy and its institutions and this in turn leads to increased marriages and high births. At the same time, it is possible to discern some unconscious element in this situation as well because it is believed that the mere fact of economic recovery alone would not in all cases be a sufficient and enough condition to motivate many people into marriage and/or have more children. At the unconscious level, people's motivation to exalt life - after a prolonged war - leads them to have more children because children represent in Freudian theory the life instinct.

It is possible that economic recovery may serve as an intermediate factor through which unconscious motives would influence fertility. However, the baby boom phenomenon has been attributed mainly to economic factors, specifically, to economic recovery after the Second World War (e.g., Easterlin, 1961, 1968). This study is therefore intended to complement the economic explanation of postwar fertility. The study reaffirms the argument that unconscious psychological factors also play a major role in fertility behaviour, both during and after war. A general overview of psychoanalytic theory is first presented and following that, an explanation of the postwar baby boom in the industrialized world within the context of psychoanalythic theory is also discussed.

Psychoanalytic Theory:

According to Fawcett (1970), childbearing is in part, a psychoanalytic phenomenon and a central concept of this perspective is the parental wish for a child (or the wish for pregnancy). Therefore, to aid our understanding of this topic it would be necessary to first gain some amount of insight of what personality theory has to say about this topic. One important discovery of psychoanalytic theory which has a bearing on the thesis is unconscious motivation. Freud recognized that people were not always aware of the purposes or motives of their behaviour. For him, there are three levels of consciousness, first there is the conscious mind which includes everything of which the person is aware. Second, there is the preconscious, which includes ideas or memories which are just below the level of awareness, and can become conscious quite easily. The third, and least accessible or "deepest" level of consciousness according to Freud, is the unconscious.

Psychoanalytic theory also posits that all of the energy that directs human behaviours is obtained from the instincts and that motivation is seen as being at least, in part unconscious, and psychological factors (plus perhaps instinctive drives) are viewed as determining elements in the wish for children. Hall (1954:37) defines an instinct as "an inborn condition which imparts direction to psychological processes." The sex instinct, for example, directs the psychological process of perceiving, remembering, and thinking toward the goal of sexual consummation. It is believed that an instinct has a source, an aim, an object, and an impetus and the principal sources of instinctual energy are bodily needs or impulses and Freud recognized two principal instincts: the life instinct (Eros)

and the death instinct (Thanatos). The life instinct, according to him, is the mental representatives of all the bodily needs whose satisfaction is necessary for survival and for propagation. Based on this premise, the thesis argues that survival and propagation would ensure the perpetual existence of the human species and the affirmation of life.

On the other hand, the presumed ultimate goal of the death instinct (destructiveness and aggression) is the return of the organism to the inorganic state. Some writers have noted that the notion of death instinct (Freud, 1922) grew out of Freud's attempts to account for phenomena such as masochism and some people's apparent compulsion to repeat neurotic, self-destructive, or fruitless behaviours. However, the derivatives of the death instinct are far from being inconspicuous. Freud points out that the life and death instincts and their derivatives may fuse with one another, neutralize each other, or alternate with one another. This thesis argues that by implication, the possibility of any of these three events occurring would lead obviously to the establishment of some form of equilibrium between the life and death instincts and ultimately, the environment which in this study, is equated to a period of war.

Pohlman (1969) may be regarded as one of few theorists who attempts to establish a direct relationship between unconscious motivations and fertility behaviour from the point of view of psychoanalytic theory. According to him, Freudian psychology has suggested a number of possible reasons - often unconscious - for wanting children and among these, we regard extending the ego as most relevant for the purposes of our thesis. Pohlman further notes that psychoanalytic writers and others speak of the child as an "extension of the ego" or the "self" of the parent. They point out that the love that a

person has for himself or herself (narcissism) is invested in the child (Flugel, 1947a; 1947b:29; Deutsch, 1945:17,18). Having more children may be somewhat like building up a big business, or annexing another country to one's kingdom. Some of the same pride and defensiveness that a person feels toward himself, including his body, can be extended to children and they make the claim that children are a part of oneself.

An investment of the self in such an extension may be a sort of reincarnation. Thus, it may lead to a sort of immortality which is an extension of the ego not only into a broader area but into the future (Flugel, 1947:29; Deutsch, 1945:23; Hoffman and Wyatt, 1960:241). In the view of Pohlman, therefore, the emphasis among the Hebrews on many "seed," especially before the time when belief in a personal after-life was formalized, may have been related to this need. He concludes that in some contemporary cultures (e.g., in some African societies), there is incentive to have large numbers of descendants who will honour, remember and perhaps worship the parents (Meier, 1959:67, 68).

An Explanation of the Baby-Boom Phenomenon Within the Context of Psycho-Analytic Theory:

According to Bouvier and De Vita (1991), the baby boom resulted from an unprecedented decade-and-a-half long fertility splurge that materialized in the aftermath of World War II. In their opinion, most demographers were prepared for a brief post-war spurt in births, but the protracted surge that became the baby boom was beyond anything previously experienced or predicted. Most writers have illustrated the relationship between economic recovery and/or depression and fertility with the post-war baby-boom phenomenon in the industrialized world. In this section, an attempt is made to explain

these views within the context of psychoanalytic theory in support of our thesis.

According to Easterlin (1961, pp. 881-2), both economic conditions and demographic composition may affect the overall fertility of a population group by influencing either marriage behaviour, marital fertility, or both. Easterlin notes that the economic conditions favourable to marriage and fertility during the 1950s were created by "unprecedented concurrence of ... three circumstances - a Kuznets - cycle expansion in the economy, restricted immigration, and a low rate of labour-force entry from the native population resulting from demographic processes", that is from the low number of births in the 1930s. This created exceptionally favourable labour-market conditions for young persons in the 1950s and 1960s. In addition, the young entrants into the labour force had an additional advantage over those already in the labour force thus enjoying a more favourable competitive position over the latter. Easterlin further suggested as 'one hypothetical possibility' that one might imagine "a more or less self-generating mechanism, by which in one period a decline in the rate of labour-market entry causes a concurrent rise in the rate of change of fertility, and this in turn leads, with a lag of around two decades, to a rise in the rate of labour-market entry and a consequent decline in the rate of change of fertility" (p.900). This represents Easterlin's view of the baby boom phenomenon. Generally, the underlying causes of the boom have been discussed under the following factors.

Demographic Factors

According to Bouvier and De Vita (1991), when US troops returned home after the war, marriage rates sky-rocketed and family formation accelerated to compensate for

years of separation. But the authors note that this explains only the first short period of high fertility. After the initial spurt of births in 1946-1947, both the rate and number of births fell for the next three years. They note that in 1951, these rates began to rise again and remained high throughout the decade and into the early 1960s.

Winter (1992) also writes that one of the most striking features of the demographic history of Western Europe in the World War II period is a clear and abrupt rise in nuptiality. He notes that in Britain there was a clear break in levels of female nuptiality in the interwar years and nearly 20 percent of women did not marry during their childbearing years as against only about 5 percent who were never married in the postwar period. In effect, women entered married life earlier and in much greater numbers after 1945 than before 1939. Given the fact that marriage was much more universal and women entered it earlier in their childbearing lives, and given relatively good economic conditions, Winter is of the view that a rise of fertility was likely prior to the 1960s, when reliable contraception became available to all.

It is also noted that another factor which influenced the baby boom was "a movement away from spinsterhood, childless marriage and the one-child family, and a bunching together of births at early ages" (Westoff, 1978:80). The share of women having at least two births rose from 55 percent in the 1930s to 85 percent in the 1950s (Taffel, 1977). However, the average number of children that women actually had (that is their completed family size) rose from a low of 2.3 children each, for women born in 1908, to a peak of about 3.2, for women born in 1935. Thus, Bouvier and De Vita (1991) note that although the baby boom did not bring a dramatic rise in large families, the percentage of

women having three or more children did go up.

They also reveal that close to 60 percent of women born during the Depression Years of the 1930s, who were in their prime childbearing ages during the peak of the baby boom, had borne three or more children by the time they reached their late-30s. This proportion is about 80 percent greater than the share of women born 20 years earlier who had three or more children when they were ages 35 to 39. They assert that the primary demographic causes of the boom in the US, therefore, "were more people marrying and having at least two children at early stages, as well as what may have been some 'make-up' births among older women who were previously childless. The timing of these births to both younger and older women clearly affected demographic measures of fertility"(p.5).

The total fertility rate (TFR), for example, was clearly inflated by this factor. Between 1956 and 1960, US women registered a TFR of over 3.6 children per woman - an extraordinarily high rate for a developed nation after World War II and 60 percent higher than the TFR recorded in 1940. The authors write that no group of US women born in the twentieth century has actually averaged more than 3.2 births per woman. By 1960, near the height of the baby boom, 71 percent of women ages 20-24 were married, or had been married, compared with 54 percent in 1940 or 37 percent in 1990 (US Bureau of the Census, 1975:20; Current Population Reports, 1991:2).

Childbearing also began sooner. Among women who married between 1955 and 1964, half of the first births were in the first 15 months of marriage - an interval about half as long as for women who married during the 1930s [26 months] (Glick and Norton,

1979). During the 1950s, women had their second child by age 24.7 on average - down from age 27.1 in the 1930s (Westoff and Ryder, 1969:60) and childlessness was rare. While about 20 percent of women born in the early 1900s never had children, only about 9 percent of women who were in prime childbearing ages during the baby boom era remained childless. In contrast, about 16 percent of women ages 40 to 44 in 1990 were still childless.

At the height of the boom, Foot and Stoffman (1996) write that Canadian women were averaging four offsprings each. Canada produced more than 400,000 new Canadians in each year of the baby boom, peaking at 479,000 in 1959. The largest single-year age group in Canada in the mid-1990s is those born in 1961, even though 3,600 fewer people were born here in that year than in 1959. The authors attribute this to the fact that the 1961 group includes immigrants born in that year somewhere else. The baby boom, both those born in Canada and those born elsewhere total 9.8 million people in 1996, almost 33 percent of the Canadian population. In the case of the Australians, Foot and Stoffman (1996) reveal that they never got much higher than three babies per woman, but they compensated by continuing their boom ten years longer than Canada did. That happened because Australian women were slower than their north American counterparts to enter the work-force in large numbers.

The reason given for the large number of marriages and the consequent acceleration in family formation as simply to compensate for years of separation is of primary concern to this study. How does one account for the effect of contraceptive practice in the US at this period in time when studies have shown that the rate of adoption

was quite high (see for example, Pohlman, 1969: Rainwater, 1965)? Also of interest to this thesis is the duration of, and perceived motivation underlying the initial spurt of births in the immediate postwar period between 1946 and 1947. On this score, the thesis argues that the high births that occurred in 1946-1947 was an immediate reaction to the massive destruction and the high casualties suffered in the war which necessitated that society should be reborn and that these births were unconsciously motivated. This assertion is premised on Freud's theory of the life instincts which ensures the survival and propagation of the human species. These issues and others raised above form the basis of some of the arguments which are advanced later on in this study in support of the thesis.

Economic Factors

Bouvier and De Vita (1991) further reveal that the US economy expanded rapidly after World War II, first carried along by the stimulus of the war itself and later by the enormous expansion in transportation, housing, and government spending associated with the growth of metropolitan areas. Demand for labour was strong, and young people enjoyed an educational advantage over workers because secondary schooling had expanded rapidly between 1920 and 1940. Encouraged by the availability of good jobs with relatively high wages and the prospects of rapid promotion, young people were quick to marry and start families. Perhaps these obvious economic factors led to conscious choices in raising nuptiality rates and subsequently, in high birth rates. However, and as stated earlier on, economic factors alone may not in all conditions and at all times be a sufficient condition that would trigger increased marriages; it may sometimes act as an intermediate factor only.

In a study of Canada, Henripin (1972) observes that variations in nuptiality are related to the economic situation. According to him, between 1891 and 1911, there was a recovery in nuptiality. The year 1911 was preceded by some fifteen years of prosperity which were only broken by the 1907-1908 depression. Nuptiality increased again between 1911 and 1921, and the latter year was preceded by economic conditions that were exceptionally favourable. Between 1921 and 1931, nuptiality dropped and this coincided with the onset of the major economic crisis which began in 1929. Henripin concludes that the economic prosperity which accompanied and followed the last war brought about a marked increase in nuptiality in Canada.

Social Factors

The baby boom was also characterized by a resurgence of traditional family values. According to Bouvier and De Vita (1991), the traditional family of American lore in which the husband was the sole breadwinner and the wife a homemaker resurfaced after World War II despite the fact that women had gone to work - and to college - in large numbers during the 1930s and 1940s. Another reason for the baby boom was the ambivalence of couples toward preventing that "extra" third or fourth child and consequent carelessness or inefficiency in practising contraception. National fertility surveys of 1965 and 1970 queried women about whether each of their pregnancies had been planned or wanted at the time of conception. "The answers reveal a great deal of unwanted fertility in the 1950s" (Westoff and Ryder, 1969). Pohlman (1969) suggests conscious or unconscious ambivalence may be responsible for inefficient contraceptive practice. It is the view of this study that where there exists a strong unconscious motive to

have a baby, the likelihood is that contraceptive practice would not be taken seriously.

This chapter concludes by reiterating the argument that the postwar baby-boom was influenced by both conscious and unconscious factors. The former, which are explained mainly in terms of economic recovery are very obvious hence its predominance in most theories. However, psychoanalytic theory enables the proposition of an alternative explanation based on the thesis that unconscious motives, which are manifested in the life instincts also contributed significantly to the baby-boom phenomenon. This study notes that Freud's theory is based on individuals as the unit of analysis. However, it is argued that societies consist of individuals who are assumed to possess similar instincts and hence Freudian theory can be applied to the populations under study.

CHAPTER THREE

THEORIES OF FERTILITY

The central theme of this thesis is fertility and as argued in the previous chapter, it may be consciously or unconsciously motivated. The purpose of this section, therefore, is to briefly outline as well as review some of the major theoretical perspectives in fertility analysis with the view to providing some insights of the subject-matter of fertility so that one could have a better appreciation of this work. As well, such an exercise would provide a broader framework within which the theory of war and fertility would be developed. The various approaches are discussed under the following sub-headings: the biological model, which views fertility as primarily a biological process, but which is conditioned by culture; the normative model, which views fertility as regulated by cultural norms and values; the choice model, which emphasizes fertility as a rational process, whereby parents weight the costs and benefits of having children; the synthesis model, which states that both normative and economic rational processes are operative, as well as biological factors and lastly; the psychological model, which views fertility as a psychological phenomenon involving personality variables, as well as conscious, and unconscious motivations in the decision to have children.

Biological Model:

Several writers discuss the biological model of fertility analysis under the term "proximate determinants." The proximate determinants of fertility are the biological and behavioural factors through which social, economic, and environmental variables affect fertility. The principal characteristic of a proximate determinant is its direct influence on

fertility. Consequently, fertility differences among populations and trends in fertility over time can always be traced to variations in one or more of the proximate determinants. Davis and Blake (1956) identified the first list of proximate determinants. Extensions and variants of this set have been proposed by other researchers (e.g., Mosley, 1978; Yaukey, 1973). By far, however, the model developed by Bongaarts and Potter (1983) seem to have gained wide acceptance. According to them, this approach was developed out of the need to analyse the mechanism through which socioeconomic variables influence fertility.

Bongaarts and Potter identify the following seven proximate determinants: marriage (and marital disruption); onset of permanent sterility; postpartum infecundability; natural fecundability or frequency of intercourse; use and effectiveness of contraception; spontaneous intrauterine mortality; and induced abortion. They explain that the potential reproductive years start at menarche, the first menstruation in a woman's life. They note however, that socially sanctioned childbearing is in virtually all societies limited to women in relatively stable sexual unions. In practice, therefore, marriage may be taken as the starting point of the actual reproductive years, since it takes place, with a few exceptions, after menarche. As a consequence, any changes in age at menarche can generally affect fertility only by influencing age at marriage. Once married, a woman may be considered at risk of childbearing until the onset of permanent sterility or menopause, unless a marital disruption intervenes. Childbearing can of course resume again after a marital disruption if the woman remarries.

The authors point out that while married and fecund, women reproduce at a rate inversely related to the average duration of the birth interval. Short birth intervals are

associated with high fertility and vice versa. In the absence of intrauterine mortality, the length of a birth interval is determined by its three components: (1) the postpartum infecundable interval - immediately after birth, a woman experiences an infecundable period during which the normal pattern of ovulation and menstruation is absent. The duration of this birth interval segment is primarily a function of breastfeeding behaviour; (2) the waiting time to conception, also called the fecundable or ovulatory interval, from the first postpartum ovulation to conception. The length of this interval is inversely related to the natural fecundability (which, in turn, is largely determined by the frequency of intercourse) and to the use and effectiveness of contraception; and (3) a full-term pregnancy. Because the duration of pregnancies ending in a live birth varies little, the authors think that it is convenient to assume this birth interval segment to have a constant duration of 9 months.

In summary, the authors state that the first two of the factors determine the duration of the reproduction period and the other five determine the rate of childbearing and the duration of birth intervals. They are convinced that the seven variables together constitute a complete set in the sense that socioeconomic and environmental factors can only affect fertility through one or more of these proximate variables.

Normative Model:

Such authors as Blake (1968), Lesthaege (1983), and Preston (1987) have emphasized the role of norms on fertility behaviour. How do norms affect individuals' decisions to have children? Intuitively, it is not difficult to understand why membership in pronatalist groups (such as the Mormon or Catholic Church) could contribute to

increased fertility rates. Norms, which often arise in opposition to preferences, desires, wishes and drives (Freud [1930] 1961) allow groups to solve dilemmas of cooperation that flow from the egoistic motivations of their members (Friedman and Weingast, 1993).

Other writers have suggested, however, that cultural or ideological climates can produce similar effects, presumably in the absence of sanctions. Thus Lesthaege (1983:415) believes that the spread of secular individualism - the "pursuit of personal goals devoid of references to a cohesive and overarching religious or philosophical construct" - has dampened fertility in Western Europe. Caldwell (1981) accounts for fertility decline in Australia in similar terms. Preston (1987) argues also that the ideology of zero population growth helps to justify childlessness, while the ideology of "responsible parenthood" obligates parents to invest in higher-quality offspring. Westoff (1978) and Ryder (1979) believe that the decline in fertility is due to changes in norms about the family, childbearing, marriage, and especially, the status of women in American society, combined with the use of highly effective contraception. In addition, the conclusion of the massive World Fertility Study tends to support the normative position: "Taken enmasse, the results are more consistent with an ideational theory of change based on the spread of new aspirations or new attitudes towards family formation or birth control, than with a structural theory, which emphasized changes in the economic roles of family units or of children" (Cleland, 1985:243).

Rational Model:

The most influential utility or rational model of explanation for the effects of changes in social and economic structures on fertility behaviour - which has come to be

known as the Chicago-Columbia approach - derives from Gary Becker (1976) who employs an economic framework to analyse factors determining fertility. Becker views children as analogous to consumer durables which yield income, primarily psychic income, to parents. Fertility, according to him, is determined by income, childhood costs, knowledge, uncertainty, and tastes. An increase in income and a decline in price would increase the demand for children. He goes further to distinguish between the quantity and quality of children demanded and sees the quality of children as being directly related to the amount spent on them.

Becker's theory has not gone without criticism. In the view of Friedman et al (1994), the assumption of common value in this model is muddy because under modern conditions, wealth maximizers would have no children, those who choose to have children must be operating on the basis of some other value (s), whose nature is not specified whilst in the opinion of Judith Blake (1968), the consumer durables model is not applicable to children and hence cannot predict fertility differentials by income. According to her, the acquisition of consumer durables is externally limited by credit. The poor are prevented from ever-extending themselves very far by the need to give evidence of ability to meet the purchase price. She continues that with respect to children, on the other hand, there is no purchase price. They are home-produced, and all strata have a right to produce them and to receive charity, if necessary, after they have produced them.

The Synthesis Model:

Easterlin, Pollak, and Wachter (1980:85) have criticized the utility of the

Chicago-Columbia model precisely on account of its treatment of values (or what they term "preference variables"). Their alternative model - called by Sanderson (1980) as the Pennsylvania-school model - postulates that consumption experiences in childhood and adolescence determine an individual's consumption standards, and thus the values that help govern fertility decisions (together with constraints). Values no longer are exogenous in the Pennsylvania model. Therefore, the principal modification introduced by the Pennsylvanians concerns the endogeneity rather than the instrumentality of the relevant values.

Using these premises, Easterlin (1980) and Butz and Ward (1979) argue that norms have remained unchanged, but that structural changes in the economy have altered the opportunity cost of having children. They therefore are of the view that availability of consumer goods is likely to reduce the relative value of children, as well because children are goods that are incompatible with the life-styles of educated urbanites. Further, as the demand for skills increases in the labour market, the cost of educating children rises (Westoff, 1987). Like Becker's, this theory also has attracted some criticisms from writers such as Pampel and Peters (1995:167) and Hirschman (1994).

Hirschman (1994) points out that the inclusiveness of Easterlin's model has clarified some empirical anomalies in the study of fertility trends but nevertheless shares two limitations of prior work in the literature. He points out that first, the assumption of natural fertility means that the wide variations in pretransition marital fertility (and marital behaviour) are outside the scope of the theory. Second, there is no effort to resolve the theoretical and empirical problems in the specification of what socioeconomic

variables account for demand. In general, demand for fertility does decline with modernization, but the question of the many weak associations between the standard predictor variables and fertility remains unresolved.

According to Hirschman, there are frequent findings of a rise in fertility before the transition to low fertility begins (Dyson & Murphy, 1985). Easterlin explains this pattern as a product of a rise in "supply" factors (less breastfeeding, reduced sterility, early marriage, etc) in societies where demand for fertility exceeds actual fertility levels (1983:574). What is missing in Easterlin's explanation, according to Hirschman, is a specification of what aspects of modernization lead to an increase in demand in fertility. As would be observed, the above theories, together with many others (e.g., Oppenheimer, 1976; Leibenstein , 1981; Bongaarts, 1990) treat fertility behaviour from a rational decision perspective or in the words of Coale (1973), "within the calculus of conscious choice."

The Psychological Model:

To make up for the psychological shortcomings of both the normative and rational models, Lincoln Day (1985) proposes the "drift" model. According to him, the rational model seems often to conjure up an individual actor rather too coolly calculating the gains and losses to be anticipated from the available possibilities, while the normative model too seems frequently to present an individual actor buffeted by constant winds of social pressure and forever trimming his or her sails to conform to them. Day points out that the drift model is an extension of both the normative and rational model but so far as conscious choice is concerned, it is at the opposite pole from the rational model: for it

posits a behaviour that commences almost by accident at one or another point within the limited range of possible and allowable behaviours and then, "guided gently by underlying influences" (Matza, 1964, p.29) moves (but not necessarily inexorably) toward its conclusion in a manner largely imperceptible to the person doing the acting.

Day concedes that not all behaviour is like this; and respecting particular behaviours, the degree to which conscious choice is present will differ according to the particular psychological and social milieu occupied by individual actors. But he notes that a very high proportion of human behaviour is like this - even a very high proportion of behaviour likely to have profound long-run consequences, such as those acts (or failures to act) that result in different fertility levels. Not only are the "choices" one makes very much constrained by the normative setting, and adherence to norms largely unconscious, but one's "selection" among available alternatives is ordinarily in terms of behaviours actually (or at least seemingly) but little differentiated from one another. In his opinion, the term, "calculus of choice," implying as it does selection among infinitely small degrees of difference, is perhaps an apter depiction of the actual process than its coiners may have originally suspected.

Day argues further that the idea of drift fits in well with the observation that social structures are constituted by human agency and, simultaneously, serve as the medium of this constitution (Giddens, 1976, pp. 120-121; also Giddens, 1979, pp. 62-65). Social structures are, on the one hand, constantly being reproduced, and in varying degrees changed, through myriad acts performed at all levels of intention and cognition on the part of the actors. On the other hand - and simultaneously - these structures provide the

framework within which these reproducing and changing acts can take place.

Individuals marry and bear children for a variety of reasons, some of which admittedly involve varying degrees of conscious goal-seeking - such as the desire to acquire some institutional status (e.g., spouse, parent) that serves as a fundamental defining element in the society's definition of personhood. But individuals do not marry in order to reproduce the nuclear family, or bear children in one year rather than another so as to raise the birth rate in the first year and lower it in the second. Yet these are among the consequences of their behaviour ; they are also among the means through which the social structure is reproduced, and the necessary condition for the continuation of these individual actors' behaviour (Bhaskar, 1978); and they are the means by which the social structure is altered and the normative ranges for the future behaviour in the society expanded or contracted (see Layder, 1988, pp. 97-116, 140-142).

In his view, while changes in behaviour can be analysed in terms of the normative or rational model, only the drift model would seem to place much emphasis either on change itself or the manner in which change actually takes place. In this wise, Day therefore contends that in application, both the normative and the rational model tend to be rather static. He recognizes the fact that in the analysis of childbearing, all three frames of reference - normative, rational and drift - can be useful. But the rational model would appear in most applications to be too restrictive; while both the normative and rational would appear to be too static, and also to imply the existence of rather more conscious rationality in human behaviour than actually exists. Several other writers such as Miller and Godwin (1977), Fishbein (1972), Fawcett (1970), and Pohlman (1969) all emphasize

individual psychology regarding decision-making as it relates to childbearing.

Another important study in this area, the Psychology of Reproduction (POR) was initiated by Miller in 1972 and has as its focus the investigation of the psychological and behavioural aspects of marriage, sexuality, contraception, childbearing, and gender role activities. Information gathered in this study was about demographic and family background and a variety of current motivations, attitudes, beliefs, and behaviours relevant to reproduction. In the first of a series of this study, Miller (1986) considers proception as an important fertility behaviour. His abstract schematization indicates that motivations, attitudes, and beliefs about conceiving affect the desire to conceive, which affects expectations or intentions regarding conception, which, in turn, affect instrumental efforts to achieve or prevent conception. Miller concedes that biological factors or noninstrumental behaviours may also affect the occurrence of conception. These biological factors refer to the various biological-level influences on the woman's (or the couple's) capacity to conceive and commonly referred to collectively as fecundity. According to Miller, proception is a type of instrumental behaviour in which the intention is to achieve conception. He points out that it is distinct from the nonuse of contraception and from sexual behaviour with solely sexual intent. Like any instrumental behaviour, he continues, it tends to be undertaken either actively or passively.

Miller identifies also, five situational factors as playing an important role in the occurrence of conception. The most important according to him, is a duration variable, namely how long it has been since the birth of the last child. In this study, it is revealed that for the women with no children, this variable is by definition not a factor. It seems

likely, however, that the duration of time since marriage would be an equivalent variable for those women. How many children the woman has at home is the second important situational factor. Women with one child at home are more likely to procept than those with none, probably because the former women, having started their childbearing, tend to continue until family-size goals have been met, whereas the latter women, being newly married and much more involved in the work force, tend to hold back on the initiation of childbearing.

The third situational factor is the occurrence of proception during the previous interval as set out in the study. Previous proception is far more important for women with no children than for women with one child. The former group has longer proceptive intervals and therefore is more likely to extend proception from one interval to the next. Miller notes that the shorter proceptive intervals for the women with one child are undoubtedly a function of the fact that having already had one child, they were selected for their capacity to conceive.

The fourth important situational factor predicting proception is the occurrence of a spontaneous abortion in the previous interval. The presence of this variable indicates that some proception is an effort at replacing a pregnancy that has recently been lost. The fifth and final situational factor is the employment status of the women. According to the study, this is not a significant variable for women with no children but is for those with one child. In other words, being employed does not constrain women from the initiation of proception when there are no children at home, but it does when there is already one child at home.

Miller indicates also that three marital effects appear to affect proception. First, there is the woman's feeling of satisfaction with her marriage during the interval. Where marital satisfaction is low, even to the point of causing marital disruption, the woman is not likely to begin proception. Second and third, there are also two aspects of marital interaction that centre around having children: The more a woman discusses childbearing with her husband and the less she disagrees with him about family size, the more likely they are to begin subsequent procreation. The study reveals that the discussion variable is more significant in the women with one child, indicating that the decision to have a second child may be either a practice effect from the first child decision, a result of having failed to discuss the first child decision adequately, or a result of the different issues that the second child decision involves.

The second in the series of the POR was based on a longitudinal study of childbearing motivation and its fertility effects in 401 married couples. Specifically, the focus of the study was on the personality traits and developmental experiences as antecedents of childbearing motivation. Miller (1992) shows that childhood, adolescent, and adult personality traits, which are determined partially by genetic factors (Bouchard et al., 1990; Plomin, 1990) interact with experiences during childhood, adolescence, and the adult period to produce childbearing motivation. In the study, Miller hypothesizes at least three mechanisms through which childhood and adolescent experiences within the individual's own family, especially with his or her parents, affect the development of childbearing motivation: the quality of relationships, the transmission of family-centred values, and modelling.

Loving relationships that bring a positive tone to family life may be expected to enhance the child's subsequent motivation to have children of his or her own and to recreate that positive experience. The acquisition of a strong, family-centred value system, which often is associated with traditional religious values should carry forward into adult life and reinforce childbearing motivation. Finally, the child models himself or herself on one or both parents, and in doing so begins to identify with and learn the role of being a parent or (alternatively) of being uninvolved, even absent as a parent.

The study reveals also that during adolescence, two additional mechanisms may affect the development of childbearing motivation. These are based on experiences that extend outside the family of one's origin. One area involves babysitting or other kinds of child care. During exposure to this kind of activity, the individual may acquire skills and positive experiences or may learn that such activities are not particularly satisfying. The other area involves school. Here, as a result of different degrees of academic success, the individual may develop skills, interests, and goals that tend to reinforce or to extinguish skills, interests, and goals related to childbearing.

In the adult period, the individual becomes involved with a variety of social institutions that transmit and reinforce social norms and values relevant to childbearing. The latter, in turn, may affect childbearing motivation. Higher education, because it expands the individual's point of view so far beyond family and community of origin, may be expected to promote and facilitate activities competitive with childbearing. This effect should be especially true for women, because of their traditionally large role in child care. The time demands and the values associated with higher-status occupations

also may be expected to compete with childbearing. Marriage, especially insofar as it is stable and free of discord, should be a strong reinforcer of childbearing motivation. As in childhood, religion also should be a reinforcer, especially where it is more formal and more fundamentalist. Finally, where adults have ongoing and positive relationships with the family of origin, and particularly where they maintain intergenerational ties, a strengthening of childbearing motivation may be expected.

According to Miller, the results of the study support an assumption important to the theoretical framework used in the study, namely that childbearing motivation is built upon and emerges from a substrate of individual traits that govern the human tendency to form attachment and perform care-taking. Probably, there are a number of such traits, measurable in a number of ways, but at the very least it appears that nurturance and affiliation foster the development of childbearing motivation and that autonomy counters it. Further, in contrast to earlier studies of effects of personality traits on family size desires and on fertility (Kiser and Whelpton, 1958; Westoff et al., 1961), it appears that these traits - at least in their adult form - consistently account for at least as much of the variance in childbearing motivation as do a cluster of variables representing childhood and adolescence experiences.

In Miller's view, this conclusion has an important corollary. He states that despite the outgoing debate about the magnitude of effects, recent reports by behavioural geneticists suggest that at least 30 to 50 percent of the variance in personality traits is determined in part by the individual's genetic make-up. In other words, some proportion of the variation in individual childbearing motivation is heritable and therefore

biologically based. The results also support a second assumption important to the theoretical framework, namely that the development of childbearing motivation is shaped by psychological forces throughout the first half of the life cycle. Beginning with early family life, continuing through adolescence, and spreading out through a number of behaviour domains during the early adult period, personal experiences exert a profound influence on the strength of childbearing motivation. One factor - the influence of the mother - appears to be especially important in shaping later childbearing motivation during the individual's early life. This conclusion, he notes, appears to be equally true for males and for females.

It is the view of Lincoln Day (1985) that the individual has a genuine choice, but just how much choice actually exists is always open to question. This choice is also subject to change over time and to differentiation in terms of the individual actor's experience and status (Mixon, 1980). Day stresses the point that what is actually possible at any particular behavioural moment will be a highly significant determinant of the behaviour that takes place. Certainly, also, this fact is frequently overlooked. A "fundamental attributional error", according to Ross (1977) " is the tendency for attribution to underestimate the impact of situational factors and overestimate the role of dispositional factors in controlling behaviour." One must admit it or not, that questions about fertility decisions are inherently historical, that is, they occur to people living under unique social arrangements and under a combination of historical and institutional circumstances that is unlikely to ever again be repeated in all its particulars, such as in a war.

Day writes further that it is one thing to note that people make conscious choices, and that they make them within a broad normative framework that establishes limits and guidelines respecting both the goals to be sought and the means appropriate to the attainment of those goals; but it is quite another to declare that conscious choosing is the characteristic form of human behaviour, or, that it is the characteristic form with respect to the frequency and timing of childbearing behaviour. Day concedes that conscious choice is present in fertility behaviour, especially if we think of conscious choice as being a matter of degree, rather than as something that either exists or does not exist in an absolute sense.

According to Day, we need to recognize two facts that: (a) most human behaviour - fertility and otherwise - entails little conscious decision-making among well-defined alternatives, and (b) in any particular instance, the individual actor is ordinarily but dimly aware of why he or she is behaving in one way rather than another. Human beings may be calculating and reflective animals; they may, in fact, be "nothing more central to, and distinctive of, human life than the reflexive monitoring of behaviour" (Giddens, 1976, p.114). But Day cautions that one need hardly conclude from this that all - or even most - of human behaviour is truly cognitive.

The work of Bulatao et al. (1975) also supports the fact that there is a psychological dimension to human reproductive behaviour. According to them, the human species perpetuates itself through children; cultural, religious, and national groups transmit their values and traditions through children; families maintain lineage through children; and individuals pass on their genetic and social heritage through children. The

ultimate value of children, they assert, is the continuity of humanity. But how is this social imperative reflected in the thoughts, feelings, and behaviour of those who produce children in the context of war?

In response to this question, some writers have argued that parental choices and decisions for having children are related more to external than to internal factors, thus having little psychic meaning or significance at the unconscious level (e.g., Easterlin, 1975; Becker, 1976, 1982). Others have advanced the view that childbearing needs for parents derive from deeper intrapsychic sources (e.g., Pohlman, 1969; Miller, 1986, 1992) and for Bagehot (1876), he maintains that "the causes which regulate the increase of mankind are little less than all the causes, outward and inward, which determine human action ...." Notwithstanding these different perspectives, this thesis reaffirms the proposition that human life is simultaneously both psychological and social - that both types of forces continuously interpenetrate as they impinge upon human behaviour.

What emerges from the above discussion give favourable support to the argument that both unconscious psychologically-based explanations as well as conscious factors underlie reproductive behaviour during and after war. However, the interrelationships that exist among some of these factors are also noted. This general overview therefore sets the stage for the development of the theoretical models underlying the thesis as well as help in the formulation of the hypotheses of war and fertility.

CHAPTER FOUR

THEORETICAL MODELS AND HYPOTHESIS: WAR AND FERTILITY

In developing the theoretical models and hypotheses, this study intends to rely on all the different perspectives that have been advanced in fertility analysis, however, it is noted that psychoanalytic theory, which is of central importance to this study is mainly associated with the psychological perspectives, which best explain the unconscious motives surrounding childbearing. Even still, it is observed that attempts to investigate the psychological motivations for childbearing have focused mainly on conscious economic, social and cultural factors which affect the individual in society. Also revealing in the literature is the fact that little, if any information is known by way of research as to how war affects fertility and how under conditions of war, unconscious factors may influence human reproduction. Against this background, the major objective of this section is to develop a theoretical model which takes account of all these factors in explaining fertility within the context of war.

As Meier (1959:60) rightly observes, "when a group of people from some country is displaced and put in refugee camps, they may have a stronger than ever desire to reproduce. Despite the apparently hopeless conditions of life, children may provide a kind of defiant assertion that the group has a right to continue in existence and that its way of life is right." Meier goes on to assert that after the extermination of thousands of Jewish people in Nazi Germany, some Jewish parents wanted children as a way of showing that the Jews were too hardy or virile to be eliminated even by such drastic measures. Given its theoretical centrality in this thesis, an attempt at a definition of war would be

appropriate at this point.

Definition Of War

The key concepts around which this thesis revolve are fertility and war. In addition to having being adequately covered in previous chapters, the term fertility does not pose any serious ambiguity in its general meaning of giving birth to a live baby. Much attention, therefore, is devoted this time to examining the definitional issues concerning war as is generally employed in this study. According to Bernard (1946), war is a social institution but it is not like most other institutions that are regular modes of carrying on everyday life, or at least they suppose themselves to be such. But war, which is also institutionalized is not a normal method of living; nor is it a normal method of dying. It has organization, like other institutions - even superorganization - and a degree of perfection in some of its aspects far in excess of most institutions.

The *Encyclopaedia Americana* offers a definition to the effect that war is the last resort in the settlement of disputes, the employment of physical force to do what diplomacy, threats, etc., have failed to do. Its result is either the subjugation of one side to the dictates of the other, their destruction, or compromise. It is waged either to take something from the enemy, to prevent their doing or gaining something, to disrupt or maintain a balance of power or the status quo, as a means of protection, or for revenge for an injury, real or supposed.

The sociological conception of war states that: "War is a transitory condition of struggle, characterized by armed fighting of a continuous character, on the part of two or more collectivities" (Encyclopaedia Espasa-Calpe, XXVII:35). This definition is

perhaps better classified as sociological because it is not limited to contests of states, but applies to all types of collectivities. It is however, a genuine definition of war because it specifies that the conflict is of a continuous, and therefore not of a merely sporadic character; and is transitory, that is, not a chronic sort of conflict, persisting indefinitely. The point is made that there are, in fact, chronic conflicts in society, in peace time as well as in war, but these chronic conflicts are necessarily less violent than those of war.

To say that conflict is by armed force, excludes forms of contentious procedure which permit only persuasive argument, intellectual skill, or friendly physical encounter (as in judicial trials, parliamentary debates, and athletic games). The technique of arms implies the use of weapons to kill, wound, or capture individuals of the opposing side. War is thus a type of violence. The word "violence," however, includes also activities which are not war, such as assassination and robbery, reprisals and interventions. War, therefore, may involve activities other than violence. In modern war the propaganda, economic, and diplomatic fronts may be more important than the military front; but if the technique of armed violence is not used or threatened, the situation is not war.

By way of synthesis, an attempt at an all-purpose definition of war may be stated as follows: War is organized continuous conflict of a transient character between or among collectivities of any sort capable of arming and organizing themselves for violent struggle carried on by armies in the field (or naval units on water) and supported by civil or incompletely militarized populations from the back of the battle areas constituted for the pursuit of some fairly well-defined public or quasi-public objective. This objective is of course not always defined to the satisfaction of all concerned and it is liable to change

according to circumstances during the continuance of the struggle. But upon the popular understanding of these objectives depends in large measure the degree and loyalty of the people's support.

The definition of war presupposes a conflict between two groups or collectivities. However, it is important at this point to make a distinction between two basic types of wars. According to Glossop (1983), when two sovereign states or nations fight each other, it is expressed as international war, but when there is a struggle for control of the government within one sovereign nation, it is intranational war (literally, war within a nation). Within the class of intranational war, one can also distinguish between a territorial civil war in which each of the opposing groups occupies a fairly well-defined geographical area of the country and a revolutionary war in which an organized group seeks to overthrow the ruling government throughout the whole nation. In fact, this thesis concerns itself with international wars of a prolonged nature (i.e., months or years in duration) in that the empirical analysis is based on countries that participated in the First and Second World Wars, however, reference is made to civil wars in various contexts.

Choucri (1974) notes that by far, the largest number of conflicts in developing countries are civil wars. Just to mention a few, he lists the Nigerian civil war of 1967-70, the Somalia-Kenya-Ethiopia border conflicts (1960-64), the persistent Kurd issue in Iraq (1958-63, 1991 and lately, 1996) and the frequent tribal conflicts between the Tutsi and Hutu in Rwanda and Burundi (1959-72, 1992). Choucri writes that the most critical demographic factors in civil conflicts are those pertaining to segmental divisions within the nation. He notes that during the struggle against colonial rule, indigenous segmental

groups would often coordinate their activities around the common objective of attaining independence. But once that goal was achieved, the ruling elite found itself in only nominal control of diverse communities, unable to meet their (often rising) demands.

Thus, the important demographic underpinnings of civil wars in developing countries, he observes, are internal segmental divisions, differentials in knowledge and skills, and any population variables which accentuate ethnic tension. According to him, the Nigerian civil war was primarily as a result of tribal cleavages, accentuated by differentials in knowledge and skills, and were perceived as such by the participants. Indeed, in Iraq, ethnic distinctiveness is the only significant demographic factor involved in Kurdish claims for autonomy. As already noted, the existing literature on fertility has paid little attention to unconscious factors for childbearing. Even though there are some theories on the psychological motivations for childbearing, the ability of these theories to provide adequate explanations about fertility in war times is at best, very limited. The theoretical models which encompass all the various dimensions of the thesis being investigated are therefore presented in the next section.

Theoretical Models:

Following from above, the theoretical models represent the effect of war on the wider society in general. The indirect contributions of mortality, migration, and marriage to fertility during war are incorporated in Figure 1 which is represented as the disruption model of war and fertility. Figure 2 represents the societal model of post-war effects on fertility which also incorporates conscious and unconscious motives for human fertility after war. A general perspective of the thesis is depicted in the models presented in

Figures 1 and 2. However, further elaboration of these models as they relate to the hypotheses posited are presented in subsequent models (Figures 3 and 4) where fertility behaviour at particular points in time during war and after are emphasised. The presentation begins in a sequential manner.

Model 1:

Figure 1 represents the model of the disruptive effects of war on society. Fertility would most likely be affected through the intermediate variables. Age of entry into sexual unions as well as the amount of reproduction period spent after or between unions would be prolonged as a result of the disruptive effects of war. Coital frequency is likely to be on the low side in the midst of disruption and uncertainty and as couples are separated. Also, sexual activity, either voluntary or involuntary would be inevitable. The effect of disruption on the use or non-use of contraception during wartime is not quite certain but its use would most likely not be on the high side as a result of little, or no supply and in event of rampant cases of rape during wartime. Likewise, it is presumed that fecundity would be affected through war-related illnesses even though this effect may not be very obvious, whilst infecundity is likely to remain the same. On the other hand, it is certain that incidents of intrauterine mortality would be very high as pregnant women experience the traumas of war.

All the above situations would most likely lead to a reduction in birth rates even though there might be a few cases to the contrary. As for example, the Executive Committee of the High Commissioner's Programme of the United Nations reported that "new influxes of refugees from Burundi and low rates of repatriation, in addition to very

high birth rates in the refugee camps, meant that as of May 1996 the number of refugees in camps were in fact higher than on 1 January 1996," (United Nations, 1996). It was learned that the number of Rwandan refugees in Burundi, Uganda, Tanzania and Zaire at the time was 1.7 million.

Figure 1 also shows the effect of disruption on mortality and migration. High rates of mortality and massive out-migration from war zones are some of the most visible outcomes of wars. According to Thompson (1948), Europe, west of Russia, had about 6.5-7.0 million direct military deaths during World War I. Russia's military losses were probably in the neighbourhood of 2 million, but may have been more. In World War II, Thompson reports that military losses were probably of about the same size as in World War I, but were distributed between countries quite differently. France suffered comparatively few direct military deaths and those of England and Italy were far below their losses in World War I. The former Soviet Union, on the other hand, had losses which may have amounted to 5 million or more and Germany's losses were probably somewhere between 2.5 and 3.0 million. Thompson concludes that on the basis of the above estimates, the military losses in the First World War in Europe amounted to almost 2 percent of the total population and the second to perhaps, 1.7 percent.

Toole and Waldman (1993) report that the number of refugees and internally displaced persons increased from 30 million in 1990 to more than 43 million in 1993. According to them, war and civil strife have been largely responsible for this epidemic of mass migration which has affected almost every region of the world, including Europe. They write that since 1990, crude death rates (CDRs) during the early influx of refugees

who crossed international borders have been somewhat lower than CDRs reported earlier among Cambodian and Ethiopian refugees. Nevertheless, CDRs among refugees arriving in Ethiopia, Kenya, Nepal, Malawi and Zimbabwe since 1990 ranged from five to 12 times the baseline CDRs in countries of origin. Among internally displaced populations in northern Iraq, Somalia and Sudan, the authors reveal that CDRs were extremely high, ranging from 12 to 15 times the baseline CDRs for the nondisplaced. Among both refugees and internally displaced persons, death rates among less than 5 years of age were far higher than among older children and adults.

Richard Carver (1994) reports that as a result of the civil war in Liberia, more than 800,000 Liberians out of a total population of some 2.5 million are refugees in neighbouring countries with probably more than half million displaced within the country. In other words, according to the author, approximately half the population have been driven from their homes. Also, more than two million Bosnians and Crotians have been driven from their homes (Fred Pelka, 1995). The United Nations Commission on Human Rights reported at its fifty-second session that following the events in Rwanda in 1994, some two million Rwandans fled, mainly to Tanzania and Zaire, and to a lesser extent to Burundi (United Nations, 1995). In the case of Somalia, the Commission estimated "that there were some 150,000 refugees in camps in Kenya, over 300,000 refugees still in Ethiopia and Djibouti, and a further 350,000 persons internally displaced within Somalia," (United Nations, 1996). All of the above factors combined would most likely contribute to the disintegration of a nation's economy and social structure as predicted in the model. The disruptive effects of war on fertility as depicted in Figure 1

relates to all countries which engage in war, regardless of where they fought the war, but it is most likely that the effects would be different for societies that fought wars on their own territories, as against a situation such as in World War 11 when some countries fought outside their boundaries (e.g., United States, Canada, etc.).

Model 2:

Figure 2 represents the general model of post-war effects on fertility trend. The model depicts that unconscious motivation for a large family after war would still operate through the intermediate fertility variables. Thus, the age at which sexual unions are contracted and the amount of reproduction period spent after or between unions would be reduced. Whereas involuntary abstinence from sexual intercourse would remain unaffected, voluntary abstinence is likely to be reduced to the minimum accompanied by high coital frequency. It is hypothesized that unconscious motivation for rebirth after a war would discourage the use of contraceptives for most couples who may not have achieved their desired family size or couples who lost any or some of their children as a result of the war. Even for some who do not fall into any of these categories, the motivation to give birth would be high. But the question still remains in regard to the availability or knowledge of some contraceptive practice or method. A return to normalcy after a war is likely to increase the chances of fecundity and reduce infecundity in cases where they are voluntary. The incidence of intrauterine mortality is likely to be minimal in post-war periods.

Post-war economic recovery is likely to have similar effects on the intermediate fertility variables as did unconscious motivation for a large family size except that under

this condition, all decisions are most likely to be influenced by some measure of rational conscious choices. Also, as depicted in Figure 2, it is possible that economic recovery would operate through the unconscious motive to influence fertility through the intermediate variables. In fact, this may have formed part of Easterlin's (1966) argument even though he did not exactly state it like that. Nonetheless, he argued that economic recovery facilitated the actualization of large families among the generation born during the Depression Years. All the different situations discussed under the two conditions will most likely lead to an increase in fertility but as noted previously, there may be some exceptions and the effects may be different under different circumstances.

Model 3:

It must be noted that this model, as has already been mentioned is derived from the models as presented in Figures 1 and 2. There are two scenarios which form the context surrounding unconscious psychological factors of fertility behaviour during and after war. Under the first scenario (Figure 3), it is hypothesized that fertility would fall soon after the onset of war in a given society (A). As already explained, this would result from the disruption of social life as for example, marriages will decrease, couples will be separated by death, military duties or out-migration, infant and childhood mortality will also go up, as well as spontaneous abortion. All of these conditions would lead to a decline in fertility from the levels prevailing before the onset of war.

It is argued that with the resolution of hostilities and eventual return of normalcy to the social and economic life of the people and separated and displaced persons and families reunited after war, many marriages would be contracted which would result in

high number of births and a rise in fertility (B). This situation when it occurs, would be influenced largely by an unconscious motive for "rebirth" after a prolonged period of death and devastation suffered by the society at, or undergoing war. A rise in fertility after war would also be an indication of resumption of normal or relatively rigorous sexual life after a long period of sexual deprivation. This model, according to the thesis, represents the fertility behaviour most likely to be experienced in all societies that engage in war, irrespective of where they fought the war.

However, two groups of nations or societies need be identified; societies on whose territories war was fought as against those societies whose nations participated in wars outside their territorial boundaries. Thus, it is important to note that the baby boom phenomenon occurred in some western societies, prominent among which were the US and Canada who participated in the Second World War outside their territories. Other countries such as Japan, Italy and France were among societies that engaged, as well as suffered the effects of war on their own territories and experienced some fertility increases at different times after the war, in some cases very brief and not as sustained as in the case of the typical baby boom countries.

Model 4:

The second scenario (Figure 4) represents a special case of the first scenario in Figure 3. In Figure 4, it is hypothesized that fertility will fall (A) with the onset of war for the same reasons as enumerated under the first scenario. However, it is envisaged that in the course of a prolonged war when a group of people is displaced or a country is being conquered, fertility will rise (B) for the subordinate segment or society in conflict. High

fertility for this group/society will persist into the post-war period before declining and stabilizing at some point thereafter (C). This situation would most likely be reflective of societies which experienced war on their own territories and also, for prolonged periods of time such as in civil wars. Evidence of this scenario is the reported cases of high birth rates in refugee camps in Rwanda (United Nations, 1996).

As already noted, the low fertility encountered with the onset of war under the two scenarios is partly a natural consequence of the disruptive effects of war. However, a rise in fertility in the course of war as depicted in the second scenario would also be a manifestation among the oppressed of "we" feeling against the "enemy," or a sign of defiance against the oppressors or conquerors. Under these conditions, fertility behaviour would be seen as being driven by an unconscious motivation to gain strength in numbers.

Hypotheses:

The research literature and the theoretical models as presented above provide a conceptual framework for the formulation of the following hypotheses:

(1) in reaction to disruption during war (i.e., men at war, deaths, etc), fertility will rise immediately after war as a result of an unconscious motive to exalt life (Figure 3). This will apply to all societies that engaged in war, regardless of where they fought such war, say, against a common enemy or group of nations (e.g., the cases of United States and Canada). But such unconscious motivation may be relatively short-term, as other factors (e.g., economic activity) gain prominence in influencing fertility decision-making.

(2) fertility goes down initially during war due to disruption effects (Figure 4) especially when a nation is engaged in war on its territory (e.g., England and Wales, France) and involves fighting an "enemy" nation who is the aggressor. But later on during the course of the war, fertility may go up as a sign of defiance towards the enemy; and will increase further immediately after end of war as a reflection of an unconscious motive for re-birth.

CHAPTER FIVE

DATA AND METHOD OF ANALYSIS

Data:

The empirical analysis for this thesis is based primarily on secondary sources of data pertaining to ten countries. The countries and corresponding periods of observation (in parentheses) are United States (1900-1970), Canada (1921-1970), United Kingdom [England and Wales](1900-1970), Switzerland (1900-1970), Italy (1900-1970), Japan (1921-1970), Germany/West Germany (1900-1943;1946-1970), France (1900-1970), Yugoslavia (1921-1970) and Poland (1921-1970). Data on vital statistics (births, deaths and marriages) were obtained from International Historical Statistics, Europe, 1750-1970 (Mitchell, B. R., 1975), Historical Statistics of the United States: Colonial Times to 1970, Part 1 (US Department of Commerce, Bureau of the Census, 1975), Japan Statistical Yearbook, 1996 (Statistics Bureau, Management and Coordination Agency, 1995) and Statistics Canada publications (Catalogue Numbers 82-552, 82-553, 82-548 and 13-531). The vital statistics for Poland do not include the period covering 1939-45 in the case of births and deaths, and 1939-48 for marriages. For Yugoslavia, the period between 1940 and 1946 is missing for all vital events. The vital statistics for Japan do not cover the period between 1944 and 1946.

There was not available consistent and adequate data for all the countries of our study which would enable us gauge economic recovery or depression during the respective periods under consideration. Therefore, the following economic indicators were obtained in respect of six countries as follows: Per Capita Gross National Product

(GNP) - USA; Net National Income (NNI) Per Capita - United Kingdom (England and Wales); Net National Product (NNP) - Switzerland; Gross National Product (GNP) - Canada, Italy and Japan. The period for which these economic indicators were available differ from country to country. The United States, United Kingdom (England and Wales) and Italy all have complete coverage for their respective periods of study. The data for Canada begins in 1926, that of Switzerland begins in 1929 whilst that of Japan begins in 1930, breaks and continues from 1937 until 1945 when it is not recorded. It is resumed again in 1946 and ends in 1969.

It must be stated here that the inclusion of Switzerland and Japan in the list of countries to be studied was for specific reasons. The former is considered as a neutral country which has enjoyed relative peace over a long period and as such, its vital statistics could represent, in a non-statistical sense, a relatively normal situation against which the extent of variations or distortions in the vital statistics of other countries at the time before, during and after the First and Second World Wars could be compared. Japan is also included for the obvious fact that it represents a special case among countries that participated in the Second World War and made quite a significant recovery in economic terms but did not register a sustained increase in fertility levels in the post-war period as did the other nations that were involved in the war. The case of Japan will be examined later in greater detail against the background of some evidence put forward by some writers.

Method of Analysis:

The study employs line graphs to describe the trends in total number of births es

against the background of other variables within the countries' historical time-frames associated with periods of war and resolution of hostilities. The analysis uses a quasi-experimental approach, whereby the period before war is observed as well as the time during and after war, to allow pre- and post comparisons of the number of births. Specifically, the interest of the study lies in searching for any sign of increase in births above pre-war levels during and immediately after war as support for the two hypotheses posited in the thesis. A major limitation in the procedure adopted is that no statistical time series analysis is performed to check for trend, seasonal and cyclic components of the time series.

The study relies primarily on absolute figures for the analysis. This is because the absolute numbers and the crude birth rates (CDRs) were the only data available for all the countries of our study and also covered the countries' entire respective periods. The choice of numbers was based on the fact that the birth rates remained at a high level for all or most of the 1950s in the Western industrialized countries, including most of the countries of our study despite the fact that by then, they were to an increasing extent attributable to mothers born in the early "thirties" whose numbers were relatively small because of the reduced number of births during the Depression period. "Because of the significant changes in the age structure of the population occasioned first by the low birth rate of the 1930s and then by the large increase of births in the 1946-1947 period, the crude birth rates did not accurately reflect the changes in the pattern of reproduction" (Ruzicka and Caldwell, 1977).

A better description of the rise in fertility could have been obtained from total

fertility rates (TFRs) which, despite some limitations is a sensitive indicator and more adequately reflects the underlying changes in the childbearing pattern than the crude birth rates. Unfortunately, however, the TFRs obtained for most of the countries in our study did not cover their entire respective periods, Canada being the only exception. The only alternative, therefore, was to resort to the use of absolute numbers. However, it is acknowledged that an inherent shortcoming of the use of numbers is that they do not capture the effects of changing age structure of the total population on fertility levels. But, in order to test their reliability, some countries were selected and subjected to some form of comparative analysis by plotting the numbers, CBRs and the TFRs of each of these countries on the same graph (see Figures 5a, 5b, 5c and 5d). In the end, the numbers were found to be even more consistent with the trends exhibited by the TFRs than did the CBRs.

The analysis of data involves interpretation of the observed trends as they relate to the hypotheses under investigation. Also incorporated are relevant aspects of the literature on minority group status and fertility (e.g., Van Heek, 1956; Day, 1968, etc.) as well as other sources of information including television, journal and newspaper stories and interview reports from people, communities or nations that have engaged in war or currently are at war. These sources might reflect how people respond to war from the point of view of fertility. Of course, the intention is to search for any indication of unconscious desires to increase childbearing as a response to devastation and suffering.

Other evidence to support the theoretical proposition will be drawn from the results of some studies involving the use or nonuse of contraception (e.g., Rainwater,

1965; Pohlman, 1969; Westoff and Ryder, 1969) which were conducted around the period immediately following the Second World War. The results of these studies present a fair idea of the extent to which the use or nonuse of contraception during this period was intentional or otherwise, and which factor might be attributed somehow to an unconscious desire for rebirth after a war.

The question of rape during war and its possible influence on overall fertility will be examined; however, it is highly unlikely that this is of significant importance in affecting a nation's fertility rate. Lastly, high rates of infant and childhood mortality during and after war and how these influence fertility would also be discussed. It is likely that in some cases, parents may wish to replace the death of their children during war with new ones. Even if this is indeed a significant phenomenon, it can easily be interpreted from the point of view of the central thesis of this study: that parents have an unconscious desire to exalt life after a war.

CHAPTER SIX

INTERPRETATIVE ANALYSIS OF WAR AND FERTILITY

This section describes the trajectories observed in the graphs as they pertain to each country and attempts an interpretation of same in relation to birth trends. As stated earlier, the primary concern of this thesis is the effect of war on fertility. In this connection the discussion will focus mainly on the number of births and marriages since it has been established that the latter influences the former (Figures 1 & 2). Also included is a brief discussion of death trends and how they are perceived to have influenced fertility within the context of psychoanalytic theory. An economic indicator is also incorporated to see whether there is an indication that fertility and marriage may have responded to changes in the economy over time.

Description of Graphs:

It is widely acknowledged that in a number of countries, the post-1945 baby boom was one of the most dramatic demographic shifts in recent history. However, it is important to understand as previously mentioned that this baby boom in its complete form characterized only a few of the industrialized countries, albeit also some of the largest, among which were the United States and Canada. In the United States, it is observed in Figure 6 that the number of marriages began to fall in the first depression year beginning 1929. Thompson (1948:56) notes that in "the four years ending in 1933 the total number of marriages reported was about 800,000 under what would have been expected if the 1925-29 rate had been maintained." This deficit, according to Thompson was equivalent to almost two-thirds of the annual number of marriages that were to be

expected in 1933, that is to say, the number of marriages in these four years was only equal to the "expected" number for three and one-third years.

In Figure 6, it is noted that this decline in marriages was matched by a decline in births from 2,909,000 in 1925 to 2,582,000 in 1929 then to 2,307,000 in 1933. However, at a time when marriage was picking up in 1933, the number of births was relatively stable. According to Thompson, that there was a causal connection between the depression, the decline in marriages, and the decline in birth rate was shown by the fact that the decline in the birth rate was largest in first and second births and in the births to younger women. Likewise, he suggests that the subsequent rise in the birth rate must be attributed largely to the same cause, viz., to the great increase in marriages which took place from 1933 to 1938. From 1934, the number of marriages was continuously higher than the 1925-29 level. In 1942, the number of marriages rose to 1,772,000 and then fell off during 1943 and 1944 only to rise again to the unprecedented high of 2,291,000 in 1946 just one year after the Second World War. After 1941, the variations in marriages were much affected by war conditions, but the very rapid increase of 1939-41 must be looked upon largely as a consequence of the rapid improvement in economic conditions in those years as depicted in the steep rise in GNP.

How births in due course of time follow marriages is shown clearly in Figure 6. But, of course, one would not expect the rise or fall in the number of births to be as sharp in any given year as the change in the number of marriages in the preceding year because new marriages are a rather small proportion of all the marriages from which births might be expected in any given year. There is, however, a closer relationship between the

increase or decrease of marriages in one year and first births the following year than between the change in the marriage rate and the change in the rate of second and third births three to six years later. Although the lapse of several years attenuates this connection, the same economic conditions which lead to the increase in marriages, or to their postponement, in a given year also lead many of those already married to decide upon the time of arrival of their next child and quite possibly whether or not there will be a next child.

Thompson reveals that the United States lost a little over 400,000 men in the Second World War. However, instead of births declining below the 1939 level, they rose above it and remained well above it during the war. Even in 1945 - the low year- they were a little over 8 percent, higher than in 1939, and the actual number of births in 1945 was 392,000 larger than in 1939. Thus, it is noted that the excess of births in 1945 alone almost equalled the war losses. According to Thompson, this trend is partly explained by the fact that in 1942, the number of marriages in the United States rose to 1,772,000 or about 300,000 above the expected number, and then fell off during 1943 and 1944 only to rise again to the unprecedented number of 2,291,000 in 1946, immediately after the war. Therefore, Thompson surmises it may be seriously asked whether the total population of the United States was not increased rather than diminished by the changes in social and economic conditions which accompanied the war, that is, whether it was not larger at the end of the war than it would have been had there been no war. This, in the thesis, represents the survival function of the life instincts which Freud posits in his theory. It is argued that the disruption in social and economic conditions engendered an unconscious

motivation in humans to exalt life after the war. The number of deaths in the United States before 1925 as seen in Figure 6 was slightly lower than in subsequent years except for a dramatic rise in 1918 during the latter part of the First World War. However, from the point of view of this thesis, it is important to note that the high number of deaths recorded in 1939 and 1940 during the Second World War may have influenced the high number of births between 1940 and 1943 as society tried to make up for lost lives.

Canada exhibits a trend similar to that of the United States. The number of marriages in Canada from 1921 to 1927 was fairly consistent with a slight rise in 1928 and 1929 (Figure 7). It showed a downward trend from 1930 until 1932, corresponding with the recession period and then began rising again, reaching an unprecedented high of 131,000 in 1942. Thereafter, it fell in 1943 and 1944 and rose again in 1945, reaching the highest level ever (137,000) in 1946 immediately after the Second World War before starting a gradual decline and stabilizing thereafter, with some intermittent highs.

The rising number of marriages from 1934 to 1942 preceded the baby boom and Canada registered a record high of 373,000 births in 1947, two years after the Second World War at a time when the economy was also on the ascendency. This trend in births remained consistently high thereafter for more than two decades, reaching its highest peak of 479,000 in 1959 and 1960.The economy registered significant gains from 1947 to 1952, slowed down in the following two years, before picking up again thereafter whilst birth rates began a gradual decline from 1960 onwards. Canada also faced a fairly consistent trend in deaths even though the trend seemed to have risen slightly between 1939 and 1943 and thereafter. But here too, it is noted that the high number of deaths

especially, from 1939 to 1941 was compensated by the increased number of births from 1939 onwards and well beyond the immediate postwar period.

According to Teitelbaum and Winter (1985) the countries of Western Europe, as well as Eastern Europe registered a post-war increase in fertility. However, in contrast to the sustained booms of the above two countries, most of these could be fairly described as "boomlets," that is, rising trends in both the late 1940s and later in the 1950s, deriving partly from deferred births and a surge in marriage, but which never reached the levels of true baby boom countries. This situation is what is referred to in the thesis as the short-term unconscious effect. With the passage of time, other factors such as the economy gain more prominence in fertility decision-making. The authors note that most of the countries in this group had already had fertility levels at or near replacement by the 1930s. The end of the Second World War was followed by a brief baby boomlet that appears as a 3-4-year "spike," followed by fully two decades of relatively unchanging fertility levels in the general range of 2.0 to 3.0. Finally, they point out that the third grouping of industrialized countries, consisting of Eastern Europe and Japan, showed more varied and sometimes erratic fertility patterns.

The United Kingdom (England and Wales) experienced high number of births between 1900 and 1904, corresponding to a fairly consistent level in marriages until a sudden surge of 361,000 marriages in 1915, one year into the First World War and at a time when the economy was beginning to register some success (Figure 8). Thereafter, the number of marriages fell for two years, only to begin rising again from 1918, reaching a high of 380,000 in 1920, matched by a booming economy from 1915, the second year of

the First World War until 1921 and producing during this period the highest number of births (958,000 in 1920) ever recorded in the history of the United Kingdom. The economic boom registered a steep decline thereafter, picking up slightly in 1925, which translated into a moderate increase in the number of marriages in 1927, higher than the previous five years running.

Figure 8 further reveals that the number of births rose from 605,000 in 1936 to 621,000 in 1938, then declined from 614,000 in 1939 to 590,000 in 1940, the first year in which births were somewhat affected by the war and to 579,000 in 1941, the first full year in which births would be expected to show the effects of large-scale mobilization. Births began to rise in 1942 and were 751,000 in 1944 but fell to 680,000 in 1945. They rose again in 1946 to 821,000 and to 881,000 in 1947 at the beginning of the economic recovery after the war. This is quite a different pattern from that followed from 1914 to 1919. Considering the fact that the number of births in the United Kingdom had been declining fairly steadily from 1921 to 1937 the recovery during World War II was rather remarkable.

In the United Kingdom, the high number of deaths registered in 1914 and 1915 during the First World War corresponded with declining births. However, the highest number of deaths ever recorded was in the last year of the war in 1918 and this was matched by an increase in births a year later in 1919, further leading to the greatest number of births ever in 1920. One is tempted to ask whether, following from Freud's theory, this phenomenon was not a direct response to the deaths suffered in the war. It is observed also that in the Second World War, the high number of deaths recorded in 1939

and 1940 corresponded with declining births. However, when in 1943 the number of deaths rose again, this was met with increased births in 1944, falling the following year but resuming the upward trend two years later in 1946 and 1947, two years immediately after the war.

Switzerland, like the UK posted registered low number of births from 1902 until 1919 when it recorded 72,000 (Figure 9). It registered 81,000 births in 1920 and 1921 then began registering a decline from 1922 until 1941, when it began rising again. During this period the economy of Switzerland was picking up after seven years of decline from 1931 to 1937. Likewise, the number of marriages which were fairly consistent registered a decline from 1913 to 1915, before beginning to rise until it reached a record high of 35,000 in 1920, which might have accounted for the high births in 1921 which preceded the decline in births from 1922 onwards. From 1941 Switzerland's economy was on a steady rise except in 1949 when it registered a slight fall only to recover again in 1950.

The number of marriages was high in 1941 and 1942, leading to a sustained rise in births from 1943 to 1946, then it fell three consecutive years thereafter, only to rise above the 1942 level in 1946, 1947 and 1948, three consecutive years after the Second World War. Marriages began to decline immediately after in 1949 but recovered from 1954 onwards, reaching 42,000 in 1957. There was a slight decrease in 1958 and 1959, only to rise again from 1960 onwards, which rise might have been responsible for the sustained increase in births from 1961 until 1964. The number of deaths in Switzerland was high in 1901, declining gradually only to register a peak of 75,000 in 1918 as with some other countries of our study, before declining even further below previous levels.

The number of marriages in Italy started declining in 1913 at the same time when the number of births was also falling, all throughout the war years. The number of births reached its lowest point of 655,000 in 1918, the last year of the First World War at the same time when marriages started recovering, thus leading to a recovery in births in 1919, immediately after the war (Figure 10). The number of marriages in 1919 was more than triple the number in 1918, reaching a dramatic peak of 509,000 in 1920 two years immediately after the First World War. This rise also led to a dramatic increase in births in 1920, whilst the relatively high number of marriages from 1920 to 1922 were compensated by remarkably high births from 1921 onwards. Births started declining thereafter, matching the fluctuating decline in marriages from 1921 to 1936 after which it rose again in 1937. It began falling again until it reached a low point of 815,000 in 1944 and 816,000 in 1945 in the latter part of the Second World War. On the other hand the number of deaths in Italy was relatively high beginning 1900, reaching its highest point of 1,268,000 in the latter part of the First World War in 1918. Again in the case of Italy, it may be argued on the basis of psychoanalytic theory that these high deaths might have been responsible for the rise in births from 1919 onwards, even though the number of births from 1923 was not as high as in previous years. Similarly, it is noted that the high number of deaths between 1940 and 1944 during the Second World War might have made a significant contribution to the rise in births in 1945, the last year of the war, then again, to the significantly higher figure in 1946, immediately after the war.

All this while between 1900 to 1943, Figure 10 shows that the economy of Italy was registering nothing more than normal growth. The gross national product of 1944

was nearly one hundred and eighty percent more than that of 1943, whilst the figures for 1945, 1946 and 1947 were almost or more than double the figure of the preceding year in that order. From 1948 onwards, the economy of Italy was on a major growth path. The dramatic increase in births from 1946 to 1948, against the backdrop of the relative increase in marriages in 1946 and 1947 may have been influenced by the economic boom at the time. Thereafter, beginning from 1949 the trend in both births and marriages was rather erratic with an increase in marriages usually preceding an increase in births.

Japan experienced fairly consistent levels in marriages but fluctuating numbers in births and deaths between 1921 and 1935 (Figure 11). The number of marriages registered a significant increase in 1937 but fell in the subsequent two years. Thus, there was a decline in births in 1939 as a result of the low number of marriages recorded in 1938. There was a surge in births in 1940 and 1941, perhaps continuing through to 1947, since there is no information on vital statistics for Japan between the period 1944 and 1946, registering its highest figure of 2,697,000 in 1949. Japan also recorded the highest number of marriages (954,000) in 1948 following the previous year's relative high of 934,000. This, however, did not influence the number of births which registered a brief increase between 1947 and 1949, implying a short-term unconscious motivation, before beginning a gradual decline thereafter until 1957. The number of births rose again in 1958, recorded another low from 1959 to 1961 and began to rise again in 1962 before registering its lowest point in 1966.

From 1946 after the Second World War, Japan's economy began picking up when the 1947 gross national product (GNP) almost tripled that of the 1946 figure, and the

1948 GNP doubled the 1947 figure. Thereafter, there was a major boom in Japan's economy as the GNP grew in leaps with very little slow-downs. This may have accounted for the slightly moderate increase in the number of marriages from 1955 onwards which in turn might have contributed to the relatively small increase in births from 1962 to 1965, up above the previous levels even though Japan recorded its lowest births in 1966. Meanwhile, the high number of deaths suffered by Japan in the first year of the war may have resulted in the high number of births registered in 1940 and 1941, a period in the middle of the war. When later deaths rose again in 1942, births increased in 1943, above the 1942 figure, pointing to some sort of compensatory reaction. Generally, however, the fact that Japan for most of its economic recovery after the Second World War recorded a significantly low number of births, unlike other countries that participated in the war, is what makes its case special. This notwithstanding, the point still remains that the brief increase in births immediately after the war supports our hypothesis of "rebirth" immediately after war.

For Germany and France, the data given are affected by territorial changes and invasion but their general trend is quite clear. Germany registered 1,839,000 births in 1913, which fell to a low point of 912,000 in 1917, rose to 927,000 in 1918 and then to 1,261,000 in 1919 (Figure 12). The number of marriages was relatively consistent until it declined in 1914 at the start of the First World War, reaching its lowest point of 278,000 in 1917 before it began rising steadily again, recording a dramatic high peak of 895,000 in 1920, two years after the war. This record may have been responsible for the high births of 1,599,000 and 1,581,000 registered in 1920 and 1921, respectively, after the war and

the relatively high levels thereafter.

At the start of World War II (1939), the number of births in Germany reached a high level of 1,413,000 and fell to 1,056,000 in 1942 only to recover to 1,125,000 in 1943, in the midst of the war. The high number of births recorded in 1940 may be attributed to the remarkably high number of marriages registered in 1939 at the onset of the Second World War. The number of marriages also was remarkably high at the onset of the war in 1939 but declined in the subsequent four years and perhaps all throughout the war. There are no vital statistics figures for the periods 1944 and 1945 apparently because of the Second World War. However, it is observed that in West Germany (Figure 13) the number of births rose steadily from 1947 to 1949 and fell in 1951 whilst marriages also followed the same rising trend but fell one year earlier than births. The following three or four years showed very erratic patterns of both marriage and birth trends with no consistency between them but thereafter beginning 1954, any increase in marriages was matched by a corresponding increase in births until 1963 and 1965 when marriages and births, respectively, began to decline. Thus, it is seen that in Germany and West Germany during both world wars, the number of births remained well below what it was in the years immediately preceding.

On the other hand, the highest number of deaths in Germany was recorded in the latter part of the First World War in 1918 (Figure 12), which, it is suspected as in the case of other countries, may have led to increased births in the two years immediately after the war (i.e., 1919 and 1920), even though this rise began a year earlier in 1918 apparently in response to the relatively high deaths between 1914 and 1917, a period during the war.

However during the Second World War, the high number of deaths in 1939 and 1940 were matched by declining births but when in 1942 deaths began rising again after a brief fall in 1941, births increased in 1943 and maybe, in the subsequent two years during which data on vital statistics are not available for Germany.

The number of marriages in France in 1912 was 312,000 higher than that of the previous three years running, but it started declining thereafter recording its lowest level in 1915, to be followed by similarly low levels in the subsequent two years, the period in the middle of World War I, thus accounting for the low number of births during that period (Figure 14). The level of marriages recovered dramatically afterwards reaching a peak of 623,000 in 1920 and started to decline again. At the start of the Second World War, the number of marriages was at a low point of 258,000, dipping further down to 177,000 in 1940 before recovering to 226,000 and 267,000 in 1941 and 1942, respectively. It fell again below the previous years' levels in 1943 and 1944 but before the war ended, it recovered again to 393,000 in 1945 and to a further high of 517,000 in 1946 after the war. This may have been responsible for the high number of births of 867,000 recorded in 1947 and 1948 and a much higher figure of 869,000 that followed in 1949.

In 1914 at the start of the First World War, the number of births in France was 753,000. It declined rapidly in 1915 and 1916 to 382,000 in the latter year (uninvaded territory), recovering thereafter into the postwar years until 1922. In 1939 in the first year of the First World War, the number of births in France was 612,00 declining to a low point of 520,000 in 1941. It recovered in 1942 and maintained a consistent rise thereafter until 1949. Thus, the number of births in France never fell in World War II as it did in

World War I and from 1941 onward was as high or higher than it had been prior to the war in spite of the deportation of hundreds of thousands of slave labourers.

Ronsin (1995) illustrates further in much detail the effects of the Second World War on nuptiality rates in France and further looks at two more recent events: the Algerian and the Gulf wars, to prove the assertion that the psychological effects of fighting and even the threat of conflict cannot be neglected. Ronsin notes that marriages fell between August and October, immediately after the mobilisation in 1939, 30 percent less than in 1938 of the same period. However, the number of marriages picked up between November and December 1939 because there was calm at the front and some troops were given permission to take a leave of absence. Thus, according to Ronsin in November to December 1939, marriages rose by 20 percent more than the same period of the previous year. By the end of 1939, the French army had lost 1,433 men and the English expeditionary forces in France had three men dead. The western front had seen very little war action and hope could therefore be reborn. This illusion lasted till May 1940 when war really broke out and in June and July 1940, marriages dropped by 4 to 5 percent, less than the figures for the same months in the preceding years.

In 1941, however, the rate of nuptiality was only 10 to 15 percent less than the pre-war figures. Ronsin points out that this relatively small figure of reduction in marriages in a period of war was even more surprising because of the degradation in the living conditions of the French people as well as in the population dynamics. The 100,000 killed soldiers, the 1,200,000 prisoners still detained in Germany, the tens of thousands of French citizens, he writes, all affected the balance of the sexes. In addition, France was

still occupied and hundreds of thousands of French citizens were refugees outside their country. Ronsin notes that the paradoxical increase in nuptiality in France continued in 1941, although there were not any sufficient reasons to explain this in the traditional way by solely attributing this phenomenon to the displacement of the male population in times of war, or other factors like the rush to make up for lost population which immediately follows a classic war.

In 1942, Ronsin reports that 20 percent more marriages were recorded than in 1941. France saw more marriages from August to November 1942 than during the same months in 1938, although the country had just gone through some terrible times including losing 2,000,000 inhabitants who had been victims of the war, refugees, those deported to work in Germany, prisoners of war, etc. With a rate of 137 marriages out of every 10,000 inhabitants, Ronsin notes that this was the highest ratio of nuptiality since the 1930s. Although women at this time found it hard to find a husband, men on the other hand got married more than they had been in 1931 (except the year 1933).

This phenomenon, according to Ronsin, is explainable by the fact that in 1920 (i.e., after the first World War) and 1942, there was a marked increase in population growth. In the case of 1920, this was due to the relative peace after the war while in the case of 1942, the propaganda machine of the Petain regime which collaborated with the German occupiers convinced the French people that peace, and indeed, a "new Europe" was on the horizon. People therefore felt more at ease to get married, especially during the lull in fighting brought about by a supposed "cessation of hostilities" (p.140).

Just prior to the end of the Second World War, Ronsin notes that there was a

sharp rise in nuptiality in 1945. From January to May of 1945, there were 102,783 marriages, as compared to 82,899 in 1944, 88,134 in 1943, and 99,721 in 1938 for the same period. This relatively small increase must be considered against the background of the most trying conditions in France at the time (almost 2 million detainees in Germany - war prisoners, deportees and forced workers). Ronsin reveals that by 8th May, 1945, the French army was about 1,300,000 strong men. After the nuptiality gains in 1939 and 1942, this was the third time that the French people were marrying in big numbers again. In the view of Ronsin, this is further proof that relative to war, nuptiality rates are not only affected by mobilisation and detention but also by other psychological factors; firstly, the state of mind linked to the optimism of an impending end to war, and secondly, the return of the troops from the front. From May 1945, Ronsin reports that the repatriation of French detainees was speeded up and from June to December 1945, there were 272,120 marriages celebrated in France. He notes that there had been 116,462 marriages for the same period in 1944 and 186,555 marriages in 1939 for the same period.

Turning to the Algerian war, Ronsin notes that even though the war did not significantly affect the nuptiality of French people, its ending was accompanied by certain phenomena which reflect the normal trend of population growth to make up for lost population or the downward trend of growth which had occurred in times of conflict. Ronsin refers to Alain Lery's work, Donnees de demographic generale - Nuptialite 1931-1973 in which he states that the Algerian war brought about an increase in the average age at which the French people first got married. This increase, according to Lery, was in

the order of about half a year for men born between 1932 and 1939, while for women, there was only a slight increase for those born between 1935 and 1939 regarding their first marriages.

However, Ronsin notes that even though the rate of nuptiality continued to drop in 1962, the end of the Algerian war in that year was welcomed with an increase in marriages, as shown by other indicators. First, there was an increase in marriages among 20-21 year olds. Secondly, the number of marriages celebrated every month rose up in the years 1961, 1962 and 1963. Ronsin reports that there were 2,032 more marriages in 1962 than in 1961, but what is more important is the comparison that one could make between the monthly distribution of marriages between 1961 and 1962. According to Ronsin, there were 4,854 less marriages in 1962 than in 1961. Also, June 1962 recorded 4,914 more marriages (or 17% more) than in June 1961. This sharp rise vis-a-vis 1961 continued - with the exception of July 1962 and the Spring of 1963 which were disturbed by the dates of Lent - until November 1963 in which there were 24,622 more marriages than in 1961 (p. 132).

Ronsin comments that given that the rise in nuptiality in the second half of 1962 was largely a consequence of the important and regular reduction in the number of French troops in Algeria (318,000 troops on 1st January, 1963), the mere observation of the dynamics of troop numbers in Algeria without a corresponding investigation of the political and psychological conditions that prevailed at the time is unsatisfactory. This is because between January and May, there were more marriages in 1961 than in 1962, although there were 415,000 French soldiers in Algeria in 1961 as opposed to "only"

355,000 in 1962.

Ronsin notes also that the peculiarities of the Algerian war explains the weak demographic figures. He is convinced that even though these peculiarities are few, the increase in ages of first marriages, for example, makes them real. And though the troops sent by France to Algeria is an important factor, there are equally other important factors. Moreover, the rate of nuptiality of the 20-24 year old men puts a dent in the reasoning of those who base their arguments solely on the dynamics of troop departures to North Africa. To further buttress his point, Ronsin reveals that from January 1959 to July 1961, the number of French soldiers in North Africa was stable, yet the number of French youth who got married during that period kept on rising.

Regarding the brief Gulf "War", Ronsin quotes some figures to show its influence on marriages in France. He states that the low numbers of marriages in France that had been going on for a long time started to change in 1988, when numbers started to climb. He reports that there were 265,000 marriages in 1987, 271,000 in 1988, and 280,000 and 287,000 in 1989 and 1990, respectively, a rate of increase of 2 to 3 percent per annum between 1987 and 1990. This trend continued between January and August 1990 when 195,000 marriages were celebrated as against 191,000 for the same period in 1989, until it begun to reverse from September 1990, a month after the Iraqi invasion of Kuwait. Between September 1990 and April 1991, there were 141,600 marriages.

In comparison with above, marriages recorded in May to September 1989 and 1990 were 178,000 and 185,000, respectively. For the same period of May to September, there were 186,000 marriages for 1991 and 185,200 marriages for 1992, while 173,700

were recorded in 1993, also within the same month interval. According to Ronsin, the May to September 1991 figure of 186,000 marriages recorded goes to prove the assertion that immediately after a war or other serious conflict or disturbance, the number of people who enter into post-war marriages do pick up considerably for very obvious psychological, emotional and political reasons. This is the reason why he believes that although these numbers may not present very wide differences, they are all the same very important and must be recognized as such. Ronsin concludes that the simultaneity of the numbers of marriages in France and the advent of the Gulf War may have been a pure coincidence, however, it is noteworthy that the effects of wars cannot only be measured in terms of human loss and population displacement. In short, "war affects everything. Its effects confound, amplify and contradict each other" (p. 138).

Figure 14 also shows that the number of deaths in France at the start of the First World War in 1914 was 770,000, reaching a high of 865,000 in 1918 before beginning to decline. These deaths were matched by a recovery in births from 1917 onwards and into the postwar period. Similarly in 1939, the number of deaths registered was 643,000, rising to 738,000 in 1940 and this might have prompted a reverse in the declining number of births in 1942, which continued to rise until 1949, indicating an unconscious act of defiance in the face of aggression as well as an unconscious desire for rebirth during and immediately after war.

The number of marriages in Yugoslavia declined from 130,000 in 1930 to 100,000 in 1934 (Figure 15). It recovered to 110,000 in 1935 and 1936, increasing to 124,000 at the start of the Second World War. But this rising trend in marriages was

matched by a consistently declining number of births from 1931 to 1933, rising slightly in 1934, then resuming the decline thereafter until 1939. No vital statistics on Yugoslavia are available between the period 1940 and 1946. After the war, the reverse was the case. While the number of births was on the rise for the period spanning 1947 to 1950, the number of marriages for the same period was declining except for a small increase in 1950. Thereafter, the number of births and deaths followed an erratic trend of ups and downs. The number of deaths was at its highest point in 1929 and continued declining below this level all through to the Second World War though in a very inconsistent manner.

For Poland (Figure 16), whereas the number of marriages eight years before the start of the Second World War was fairly consistent, the number of births was declining steadily from 1,016,000 in 1930 to 869,000 in 1933, thereafter rising and falling inconsistently but well below the 1930 level. As with some countries previously discussed, there are no vital statistics data covering the period of the Second World War from 1939 to 1945, extending further to 1948 in the case of marriages. After the war when the number of births was rising, reaching its highest point in 1951, the number of marriages was relatively consistent from 1949 until 1957, rising in 1958 and 1959 only to assume a downward trend thereafter. The number of deaths continuously declined from 1930 to 1933, rising slightly higher in 1934, declining again in 1935 and going up again in 1936 before falling two years prior to the onset of the Second World War. This downward trend was resumed after the war only to be reversed between 1949 and 1951, then declining again thereafter.

The general outcome of the foregoing analysis tends to offer very strong support to the thesis under the different scenarios posited in the hypotheses of the study. Generally, the disruptive effects of war are noticeably very pronounced in all or most of the countries and this is reflected in the fall in fertility levels and the significantly high number of deaths during the periods of the war. Also very prominent are the high birth rates recorded by some of the countries in the midst of war, and immediately after war in almost all of the countries, or the occurrence of both events in the case of some countries. There is also evidence to support the argument that economic recovery after war in some of the countries did lead to increased marriages.

As for example, England and Wales registered very high deaths at the onset of both world wars and fertility levels also dropped as a result of disruption (e.g., men at war, deaths, war-related illnesses, economic dislocation, etc.). But as a sign of defiance for the enemy, fertility began increasing during the war and even further immediately after the war. Relatively similar trends are observed in the case of Italy, Germany and France. Other countries like Japan, West Germany, Yugoslavia and Poland all registered increases in fertility immediately after the Second World War, although for brief periods. These are all countries that participated in wars within their own boundaries and for them, making babies was the only way by which they could exalt life after such massive destruction of both humans and society at large. This trend is a reflection of an unconscious motive for rebirth. As posited in Freudian theory, the life instincts always ensure the propagation and survival of the human species and ultimately, life. But unconscious motivation, as noted previously, are relatively short-term (e.g., as in the case

of Japan), as other factors (e.g., economic recovery) gain prominence in influencing the marital fertility decisions of couples.

Even for such countries as the United States and Canada, the simple reason that they engaged in wars outside their territories and witnessed massive destruction was enough to engender some unconscious motive for re-birth back home in their respective countries after the war. In their situations, economic factors and societal values would seem to have accounted for the most part of the high fertility regime especially, for births outside the immediate postwar period which eventually culminated in the baby-boom. Interestingly, Switzerland, which did not participate in any of the world wars also experienced some variations in fertility patterns similar to those exhibited by some of the countries which participated in the wars apparently because of its relations (e.g., political, economic, geographic, etc.) with any, or some of the countries that participated in the wars. In fact, Switzerland may have been influencd by the wartime conditions of that period.

The dramatic reversal in postwar fertility trends in most western countries from the late 1960s to the present below-replacement level is worth mentioning at this point. According to the United Nations (1985), the countries of Western Europe have a mean family size of about 1.61 children per couple, with West Germany registering as low as 1.42 and Japan, 1.71. It is revealed that Europe as a whole has a mean family size of 1.90 and the United States has 1.85. Davis and Blake (1956) argue that the decline in births is related to contraceptive use, frequency of intercourse and other variables that are immediate, or "proximate" causes of fertility. However, Keyfitz (1986) points out that

underlying the proximate causes are economic causes and below these is a further layer of political-social changes. He notes that the immediate influence on the birth rate is contraception, for the first time controlled by women (using the pill, foam, diaphragm) rather than by men (using the condom or withdrawal). He also notes that the democratization of decision-making within the couple is also supported by the work opportunities offered to women. Keyfitz stresses further that it is indeed work opportunities for women that lower the birth rate but they do so by freeing women from the dictatorship of men. As noted elsewhere in this study, a strong case for the importance of economic factors in fertility change has been made by Gary Becker (1981) and Richard Easterlin (1980) whilst the importance of contraceptive technology has been stressed by Charles Westoff and Norman Ryder (e.g., 1977). Ron Lesthaeghe (1983) has made an attempt to discuss values in relation to fertility change. All these factors are seen to have greatly influenced present fertility trends in western industrialized countries.

Why Japan's postwar fertility increase in the two years immediately after the war was so abrupt as compared to other countries in spite of a significant and sustained economic recovery has attracted the attention of some scholars who have advanced varying reasons. According to Kingsley Davis (1963), the resort to abortion in Japan has been the leading cause of probably the fastest drop in the birth rate ever exhibited by an entire nation, with births per 1000 women aged 10-49 falling by 41 per cent between 1950 and 1957. It is reported that there was a rapid rise of the registered abortion rate from 11.8 per 1000 women aged 15-49 in 1949 to a peak of 50.2 per 1000 in 1955 (Masabumi, 1961). One factor which played a part in Japan's falling birth rate is

contraception. Irene Taeuber (1958) points out that "this practice increased rapidly after 1950 although abortions were available, relatively safe, and cheap."

It is also revealed that further control was achieved by sterilization. Reported operations, totalling 5,695 in 1949, averaged 42,843 per year during 1955-59, at which time they equalled 3.8 per cent of the reported abortions. Taeuber notes that there is even some indication of a small amount of infanticide. Another factor, according to Bennet (1967) is that Japan underwent rapid urbanization during this period and Japanese also migrated from their homeland in sizable numbers. Finally, Japanese exhibited still another adjustment - postponement of marriage. It is reported that the proportion ever married among girls aged 15-19 fell from 17.7 in 1920 to 1.8 per cent in 1955, and for women 20-24, it fell from 68.6 to 33.9. It is said that by 1959, Japan had a marital age higher than that of most Western countries.

Davis (1963) observes that Japan presents the picture of a people responding in almost every demographic manner then known to some powerful stimulus. He writes that within a brief period they quickly postponed marriage, embraced contraception, began sterilization, utilized abortion, and migrated outward. "It was a determined, multiphasic response, and it was extremely effective with respect to fertility" (p. 354). This "multiphasic response" brought down the gross reproduction rate, with only a brief wartime interruption, from 2.7 in 1920 to 0.99 in 1959.

There are still, in more recent times, reported events which invariably lend support to the hypothesis of increased births after war or during war arising out of an unconscious desire to exalt life or as a sign of defiance towards an aggressor. The high

incidence of births in US army bases after the Gulf War and a similar story in Bosnia are two such instances. In an article by Amber Nimocks (1996) titled "Gulf War Babies To Tax Schools," it is reported that there was an unusually high number of births across US army bases nine months after the end of the Gulf War which lasted from January 17, 1991 to February 6, 1991. The report revealed that from December 1991 to March 1992, maternity wards at Cape Fear Valley Medical Centre and Womack Army Hospital were bursting with babies. During those months, 871 babies were born at Womack, an average of 217 a month. The author went on to say that this figure was not far above the usual average. However, the fact was that many mothers were sent to civilian hospitals. At Cape Fear Valley, mothers gave birth to 5,068 babies between October 1, 1991 and September 31, 1992. The author observed that this figure is 768 more than the number of babies borne in the same period in 1990-91, and 784 more than in that time span in 1992-93. This story complements the French situation during the Gulf War which led Ronsin to assert that even the feeling of war and devastation outside one's boundaries is enough to drive more people into marriages, which is in essence consistent with the thesis of an unconscious desire for re-birth.

Another article which appeared in the Italian newspaper, Nuovo Mondo (1995) based on Sarajevo ("Baby-boom fra le macerie: Record di nascite a Sarajevo" literally translated as "Baby-boom within the ruins: Record of births in Sarajevo") reported that in the last twelve months of 1994 there was a 50 percent rise in the number of babies in relation to 1993. A doctor in the pediatric hospital of Kosevo, Dr. Almo Kapitanovic commented that the babies being brought into the world at that time were conceived in

one of the darkest moments of the Bosnian war. Therefore, he felt this mini demographic explosion was hardly an indicator of optimism in the population. He said these were certainly not decisions arising from a state of joy but that they were births emanating out of people's desire to remain alive and a couples' reaction to the despair and devastation of war.

This statement affirms the unconscious motive for re-birth in the context of war posited in this thesis. But it also supports the notion of how war is also a disruptive force. The article noted that in the first two years of hostilities, the number of newborns diminished largely because the material and psychological problems to be overcome by potential parents were overwhelming and discouraging. This, in fact, represents exactly what in the thesis is the initial fall in human fertility as a result of the disruptive effects of war. According to a 22 year-old soldier, Suad Boogdanovic, who became a father, "... Had it not been the war, perhaps I would not have even married. But after the wedding the need to survive had fostered in me and my spouse a strong need to conceive a child." This comment could be regarded as a restatement of the survival function of the life instincts as posited in Freudian theory. This case is one of several types which can arise out of war situations, especially when a nation engages in war on its own territory.

Thus, during a prolonged period of war and immediately after war, the underlying motivation for rising births may be the result, in part, of an unconscious desire, on the part of the conquered or oppressed to show defiance in the face of defeat or on the part of a minority group to bolster in numbers to be able to counter a dominant majority group. In fact, as would be seen in the next section, this last assertion is given credence in

different perspectives by several studies of minority group status and fertility which have established that relatively high levels of fertility prevail among minority groups in societies in which political and/or violent conflict has characterized the historical or even contemporary experience of both minority and majority populations.

The Thesis of Collective Response To An Aggressor In War:

In one such study, Van Heek (1956) assesses the possibility as to whether Dutch Catholics differ from other Catholics, for instance, in their attitude to birth control. He answers this problem by comparing fertility differences between Catholics and non-Catholics in the Netherlands with similar differences abroad, or by comparing Dutch Catholics or non-Catholics with similar foreign groups. The study showed striking differences when Dutch and Belgian frontier areas were considered in which the populations are Catholic but which have been subject to outside influence. The Campine, south of Tilburg, which is divided between Holland and Belgium, contains an almost equal proportion of Catholics fulfilling their Easter duties in both countries, but the difference in marital fertility is no less than 60 percent. This difference was explained by the fact that the Dutch Catholic clergy were more active than their Belgian colleagues in their insistence on the strict application of Roman Catholic standards to the birth rate problem.

The same situation was found on the Dutch-German border. Here, a comparison could be made, not only between Dutch and German Catholic areas, but also between Protestant areas in both countries. It was remarkable to find large differences between Catholic districts on either side of the frontier, accompanied by small or negligible

differences between Protestant areas. Thus, Van Heek notes that two textile centres, Tilburg in Holland and Munchen-Gladbach in Germany, towns of approximately equal size and with the same proportion of Catholics, differed in marital fertility by more than 50 percent.

Van Heek suggests that if one wishes to obtain an idea of the future dynamics of social factors which affect the birth rate of Catholics, one has to reconsider the aetiology of the problem and analyse the causes operating in the past. Such an analysis, applied to the study of the Roman Catholic birth rate, according to him, requires a knowledge of the factors which have brought about serious differences between the outlook of Dutch Roman Catholics and that of Catholics in other countries. Van Heek starts by observing that Dutch Roman Catholics are distinguished from other Catholics by their aggressiveness, characterised by a comparatively strong and combative communal organisation and a strong religious elan, manifesting itself in an intensified observance of specifically Roman Catholic standards of theological ethics. This attitude strongly influences the birth rate of the group.

Van Heek writes that a comparative analysis of this claim leads to a test of the hypothesis that the Dutch Catholic outlook has been brought about by, among others, the following factors: (1) Dutch Catholics have for centuries been a strong minority. Their numbers were not comparatively small as in England, but were large enough for it to be possible that they might grow into a majority; and

(2) Roman Catholicism was suppressed within the territory of the Dutch Republic in the seventeenth and eighteenth centuries.

In studying these two hypotheses, Van Heek makes use of Toynbee's (1935) "penalization theory." In Toynbee's opinion, population groups which are oppressed and thereby prevented from exercising those functions they might have chosen had they lived in freedom, devote themselves with greater eagerness and usually with striking success, to the activities still open to them. Based on this premise, Van Heek investigated the effects of the religious and economic oppression of Dutch Catholics upon the development of their fighting spirit and religious elan. He concluded that the expansion of the political power of Dutch Catholics is largely attributable to the spirit of the counter-reformation. It is also suggested that the fighting spirit is generally among Catholics as a result of the challenge of the Reformation even though there are national differences among Catholics in this respect.

In support of Van Heek's thesis, Lincoln Day (1968) investigated whether minority status groups have more children because of a desire to preserve the identity of their own group in the face of the numerical and social domination of another, or is it ethnocentrism and the desire for survival? In his study of *Natality and Ethnocentrism*, Day contends that within any particular population, what is at work in the aggregate is the whole cultural matrix within which are determined: (1) the extent to which control will exist over childbearing and (2) the range of "acceptable" family size. In his view, what is at work specifically among Catholics within this cultural matrix is this group's relative numerical and social position. Whereas the larger culture determines what is possible, and also what is the range of acceptable behaviour with respect to family formation, the particular level of Catholic natality within this "acceptable" range is determined by where

Catholics stand relatively to other groups within the society, particularly with respect to the percentage they form of the total population. Thus, the findings of Day's study on a large number of countries support those of Van Heek concerning the Netherlands.

Day based his conclusions on an analysis of data concerning aggregate levels both of natality and of economic and social conditions in some Christian countries. Natality is indicated by the total fertility rate and social and economic conditions by a variety of measures: average income, consumption of energy per head, daily newspaper circulation, proportion of employed males outside agriculture, and proportion illiterate among adult women. Day's study reveals that none of these economic and social indicators, either singly or in combination with the others, happens, to be strongly correlated with natality.

However, within this group of countries, Catholic natality not only seems invariably to exceed Protestant (whatever the standardization employed), but, the natality of Catholics in countries where they constitute a distinguishable minority of the population exceeds that of Catholics where they constitute a majority. On the basis of the available evidence, it appears, in short, that the natality of Catholic minorities in Australia, New Zealand, the United States, Canada, the United Kingdom, the Netherlands and Switzerland exceeds that of Catholic majorities in Argentina, France, Belgium, Luxembourg, Italy, Austria, Czechoslovakia and Hungary.

Day concludes from his study that Catholic childbearing does strongly suggest that although Catholic pronatalism serves to increase natality, it does so only under two conditions - when: (1) there exists a high level of economic development; that is, a climate in which one could reasonably expect both the predisposition and the opportunity

for effective natality control to be most widespread: and (2) the persons at whom the pro-natalist teaching is directed define themselves as members of a group constituting a numerically and politically important, but not dominant, minority of the population.

Day points out that if there is, in fact, a causal connection between Catholic doctrine and Catholic natality, it would seem to work through an intervening variable; a variable the presence of which is indicated by the two national attributes of a relatively high level of economic development and a minority status for the Catholic population. Day suggests that this intervening variable is ethnocentrism coupled with the feeling of being threatened as a group. In countries where nearly everyone else is at least nominally Catholic, there is no particular deviancy in being a Catholic oneself, and scant likelihood of real or imagined threats to Catholics as such - in contrast to threats that might be directed against persons in their capacities as industrial workers, or democrats, or shopkeepers, or physicians, for example.

In short, where Catholics are a majority there is no need to feel threatened or at bay as a catholic, and hence, no particular incentive either to seek out co-religionists for support and example, or to attach oneself more closely to the Church and its teachings on account of the slights (or worse) one feels oneself to have suffered on its behalf. In this respect, then, there does seem to be a kind of Catholic sub-culture (the existence of which has on occasion been adduced to explain higher Catholic natality), one effect of which is the encouragement or maintenance of higher natality among its adherents. But Day points out that it is a sub-culture that develops and has pro-natalist consequences only when Catholics, as such, feel themselves to be in a disadvantaged, threatened position in the

society.

Day therefore suggests that the presence of this feeling is most readily indicated (and possibly directly caused) by Catholic occupancy of a numerical minority position; that, other things being equal, the natality differential in favour of the Catholic members of any particular group will vary directly with their consciousness of minority status. Day goes further to cite the cases of some non-Catholic groups whose natality might have been similarly influenced by this consciousness of minority status. Probably, in his view, such feelings account for a part of the higher natality of the Canadian Doukhobors and American Mormons, and, in contrast with most of their co-religionists in the United States, also of the Jews in Israel (who presumably have the surrounding Arab majority to worry about). Day notes that all three of these groups have had some experience with pro-natalism, though among the Israeli Jews, this is not likely to have been prominent.

Kennedy (1973) examined the question not only whether fertility is influenced by a person's minority membership, but how and under what conditions? Kennedy's thesis posits that minority group fertility will be higher than otherwise expected when two sets of conditions exist: (1) the group's members believe they can increase their political influence by increasing their share of the total population; and (2) the group's members believe their chances for individual upward mobility are much less than that enjoyed by the rest of the population. Kennedy believes that in societies where such conditions exist, the stage would be set for the operation of a pronatalist force.

Kennedy compared the fertility of Catholics in Northern Ireland where they are the minority, with that of Catholics in the Republic of Ireland where they are the majority

and makes a similar comparison of the fertility of non-Catholics in the two parts of Ireland. According to the total child/woman ratio, Catholics had higher fertility in Northern Ireland than in the Republic; and the gap was wider in the 1950's than the mid-1930's (see Table 1).

The marital child/woman ratio also shows a higher Northern Irish Catholic fertility in Northern Ireland than in the Republic; and the gap was wider in the 1950's than the mid-1930's. The marital child/woman ratio also shows a higher Northern Irish Catholic fertility, but changes over time are not revealed since the measure first became available for both parts of Ireland only in 1946/51. The fertility difference among married women, however, was smaller and indicates that the higher Northern Irish Catholic fertility was partly due to earlier marriage. In 1961, for example, the percentage single among women age twenty-five to twenty-nine was thirty-nine in Northern Ireland, and forty-five in the Republic (Ireland, 1961; Northern Ireland, 1961).

Among non-Catholics, the fertility patterns were mixed. The Northern Irish child/woman ratios were higher than those in the Republic, but the reverse was true for marital child/woman ratios in 1946/1951; while in 1961 there was no meaningful difference in marital child/woman ratios. Once again the incidence of postponed marriage was less among the Northern Irish: the percentage of single women aged twenty-five to twenty-nine in 1961 was twenty-six in Northern Ireland and thirty-eight in the Republic. Among non-Catholics, the Northern Irish married earlier, but did not have families larger than their co-religionists in the Republic.

Other indirect measures of fertility by religion in Ireland can be calculated by

distributing births occurring in or near a census year according to the religious distribution of persons under one or two years of age as enumerated in the census. Using this procedure, Walsh (1970) estimated legitimate birth rates and crude birth rates by religion for both parts of Ireland in 1946/1950-52 and in 1960-62 (see Table 2). Although the exact percentages differ, the general pattern presented by the marital child/woman ratios and by Walsh's estimated legitimate birth rates are similar. Both procedures indicate that the difference in marital fertility was higher in Northern Ireland than in the Republic.

Walsh's figures indicate that the difference in marital fertility among Catholics was greater in 1961 than in 1946/1950-52. Among non-Catholics, Table 2 shows that the reversal in marital fertility patterns during the 1960's was even more pronounced than indicated by marital child/woman ratios alone. Kennedy therefore supports Van Heek (1956), Day (1968), and Goldscheider and Uhlenberg (1969) in arguing that minority cohesion is maintained to mitigate its disadvantaged status. A second condition contributing to higher minority fertility is the precedence of group over individual goals. When a minority is disadvantaged in competing for status, a group member may be more concerned with enhancing the minority's political influence, and less interested in aiding his own individual upward mobility through postponing marriage or rationally limiting fertility.

But when minority group members are allowed to compete more generally, they may try to offset some of their disadvantages by deferring or limiting childbearing (Goldsheider and Uhlenberg, 1969:379-1). The fertility of any minority thus is influenced

by the cohesion of the group and, on the other hand, by the group members' real chances for individual upward mobility. The link between minority status and higher fertility should be strong for homogeneous groups with little chance of upward mobility, and weak for heterogeneous groups with good opportunities for upward mobility.

As is usually the case, many writers would argue that the high fertility of the oppressed groups is simply due to poverty and economic marginalization. Whereas this assertion may hold some credibility, it does not account for the whole phenomenon of high birth rates prevalent among a minority or an oppressed group. Even in this post-industrial era of the United States when relative integration between the white majority and the black minority seems to have been achieved, Tolnay and Glynn (1994) observe that there still persist high levels of fertility in the American South among black communities.

The Thesis of Sexual Deprivation and Fertility Increase Immediately After War:

It is commonly believed that when couples or partners are reunited after a long separation, such as a result of war, the tendency has been to engage in more sexual activity than is normally the case upon reunion. This explanation may have some relevance in a general sense, as a contributory factor to the high birth rates during the early stages of the Western baby boom. But, this hypothesis loses ground once it is applied to a contracepting society such as exists in the industrialized world. Presumably, couples deprived of sexual enjoyment during separation could engage in sexual activity upon reunion without conceiving by using readily available contraceptives (e.g.,

condoms, IUDs, etc.). The argument in favour of sexual deprivation is, in the view of this study, not enough for explaining the postwar increase in fertility.

Pohlman (1969:433) notes that "contraception seems to have played the key role in declining family size, and it is a widely accepted practice in Western nations." According to him, in the first GAF sample, 70 percent of all couples and 83 percent of those with no known fecundity impairments had knowingly used contraception. Others had not started contraception when interviewed but planned to; 79 percent of all couples and 90 percent of those without known impairments either had knowingly contracepted or planned to.

Rainwater (1965) also studied factors that affect the effectiveness with which couples apply family limitation methods at a time of relatively high fertility rates in the US after the Second World War. The research was based on interviews with 409 individuals, comprising 152 couples, and 50 men and 55 women not married to each other. Thus, 257 families were represented in the study which involved discussion of family size ideals, the couples' own desires in terms of number of children; ideas about why couples want large and small family sizes; contraceptive experiences and attitudes.

When respondents were asked what methods they knew people used to limit family size, fewer than one per cent of the men and three per cent of the women failed to name at least one method. Thus, almost all of the people in Rainwater's sample knew of some method that one could use to limit family size, a method which at some time had been used by some couples with at least moderate success. Thus, Rainwater concluded it would seem that very few couples of any class did not know of one or two methods they

could use to control the size of their families. He noted also in the study that at the simplest level of knowledge, even the lower-lower class respondents in the sample seemed at least as well equipped as were the highest status persons in Europe and England at the time these latter groups began limiting their families. The results also revealed one or the other of the two medically-approved methods of choice, the condom and the diaphragm, came readily to mind for over 80 percent of the men and women in each sub-group in the sample. Rainwater concludes thus, "it would be difficult to maintain, then, that more than a very few people in the sample fail to limit their families effectively because of lack of knowledge, if knowledge is construed in a purely intellectual sense" (p.211).

Westoff and Ryder (1969) claim in their study that carelessness or inefficiency in practising contraception contributed to a great deal of unwanted fertility in the 1950s but at the same time, Westoff et al (1963:23, 24 and 44) suggest that taking chances by skipping contraception is a way to have a "deliberately unplanned" pregnancy, to share responsibility with "fate" for the conception of a child. But in explaining contraceptive "failures" and people's refusal or failure to use contraception, Pohlman (1969:350) suggests that two general lines of psychological explanation seem possible, first the degree of motivation to avoid conception and second, psychological reactions to specific characteristics of available contraceptive methods. In his view therefore, the thesis that motivation to avoid conception affects contraceptive effectiveness may be applied to conscious or unconscious ambivalence. Baker and Dightman (1964) also report on a group of "pill-forgetting" women and conclude that psychological factors are a cause of

such forgetting but they make no mention of possible ambivalence over whether conception is wanted.

The above studies give an indication of the widespread knowledge of, and practice of contraception during the period after the Second World War and also reveal an unconscious psychological dimension to inefficient contraceptive practice. In effect, the prevalence of contraceptive practice in the United States at the time would most likely have negated the effects of more sexual activity if indeed there was a genuine desire to avoid conception. On the other hand, the unconscious motive to have children after a period of suffering, devastation, deaths, etc., occasioned by the Second World War may have had a significant impact on effective contraceptive practice. Thus, this study argues that the fact that people in the United States had adequate knowledge of contraception, and presumably also had access to it, but at the same time resorted to large family sizes supports (indirectly) the thesis of an unconscious desire to exalt life (i.e., by giving births) after war.

Rape:

It is difficult to estimate the extent to which rape influences a nation's fertility levels during war times, even though the incidents of rape during war times is perhaps non-trivial in some cases. The stigma attached to the act and the pain it causes its victims allows most rape cases to go unreported and undocumented. For instance, in a report on the civil war in Rwanda, the United Nations Commission on Human Rights at its fifty-second session heard that rape was systematic and was used as a "weapon" by the perpetrators of the massacres. The report noted that "according to consistent and reliable

testimony, a great many women were raped; rape was the rule and its absence the exception. Unfortunately, there are no statistics to give, if not an accurate idea of numbers, at least an approximate one" (United Nations, 1996:4).

The report went on to say that the Ministry for the Family and the Promotion of Women recorded 15,700 cases of women raped during the hostilities but it noted also that this official figure certainly underestimated the true situation for three reasons. The first stemmed from the fact that it was limited in space and time, since it only covered the period of massacres in Rwanda; it did not take account of rape which took place after the hostilities in the refugee camps outside the country, particularly of women carried off to the camps as "loot" and handed over to the tormentors. The second was the result of the reluctance of some women, particularly young girls, to confess or admit that they were raped. The specialists (doctors and psychologists) added a third reason to the foregoing, with reference to the number of pregnancies, which would seem to be between 2,000 and 5,000. According to the statistics, one hundred cases of rape gave rise to one pregnancy. If this principle was applied to the lowest figure, it gave at least 250,000 cases of rape and the highest figure would then give 500,000, although according to the report this figure also seemed to be excessive.

In Somalia, The United Nations High Commission noted that "a persistent feature of the inter-clan conflict has been the rape and sexual abuse of women, particularly the displaced, by members of militia, or moryan bandit raiders" (United Nations, 1996). In the case of the Liberian civil war, Carver (1994) wrote that women and young girls were particular victims of the war, "suffering a dramatic increase in rape and sexual

harassment. In some areas the rate of teenage pregnancy has roughly doubled,...." According to Fred Pelka (1995) the European Commission reported 20,000 women survivors were systematically raped as part of the Serbian campaign of "ethnic cleansing" whilst the Bosnian government put that figure at 50,000 for Bosnia-Hercegovina alone. The magazine reported that Asja Armanda, a co-founder of the Kareta Women's Group pointed out "that the numbers alone can't describe what is happening here. The European Commission says 20,000 women, which we think is low. But even if you accept that figure, and remember that each of these women is raped multiple times - maybe hundreds of times - then you realize we're talking about hundreds of thousands of rapes." The magazine reported further that adolescent girls were particular targets for this treatment. The standard minimum stay in one of the rape camps was 28 days - a complete menstrual cycle - in order to ensure impregnation. Survivors reported that the beatings often subsided after it is obvious they were pregnant with a "Chetnik" (Serb) baby.

The issue of rape in the context of the Bosnian situation in particular and in other wars may be looked at from another perspective in relation to fertility. Quoting Judy Darnell, a volunteer American registered nurse who worked in Croatia in 1992, "...the woman is the centre of the home or the family. If you want to destroy an entire nation, you go after the base, you go after the women. Many of these women are virgins. If your first sexual experience is so violent, and your first child is the product of that, what woman would never want to have sex again, let alone reproduce? Maybe their body is so damaged they won't be able to have children. The purpose, clearly, is to destroy Muslim and the Croat society - and to use women as incubators for 'Serb' babies" (Fred Pelka,

1995). Hence it is observed under this situation a process whereby rape may be regarded as a tool which is systematically applied to oppress and annihilate a minority group and at the same time to increase the population of an already dominant group.

Whilst not contesting the authenticity of these reports, this study observes nonetheless that rape can be a factor in increasing fertility in some cases, particularly in highly uncontrolled war-like situations where an oppressor aims at destroying another group or people (e.g., Bosnia, Rwanda wars). Also, the effect of rape on overall fertility depends on the duration of hostilities. A one-week war would not produce the number of rapes as would occur in a war lasting six months or a year or perhaps longer. In addition, rape in general accounts for little overall fertility. In any case, in nations where war was fought outside their territory, (e.g., United States in WW II) rape is totally irrelevant as an explanation of rising postwar fertility. In effect, this point strengthens the main theory that the rise in fertility in some of the nations selected for this study like the United States, Canada, and even Japan may be attributed to an unconscious desire for births to exalt life.

Child-Survival Hypothesis:

There is obvious potential for war to adversely affect infant and childhood mortality through direct trauma and disruption of the social infrastructure and life in general. The child-survival hypothesis states that declining infant and child mortality will contribute to increased family planning motivation and consequent falls in fertility because parents will no longer need so many pregnancies to ensure a particular family size. It is pointed out that in places where up to a third of all children die before the age of

five, parents will have many births, both as an insurance against the loss of those children already born and as a response to actual deaths. In other words, a natural response to high infant and child mortality rates during war times is high birth rates.

In a study of mortality trends in Vietnam during the period of the war, Savitz and associates (1993) examined the reproductive history and family planning of 4172 women aged 15 through 49 years in 12 selected provinces of Vietnam and analysed 13,137 births and 737 deaths of children. The results indicated that for the country as a whole, infant and childhood mortality dropped by 30 percent to 80 percent from the prewar period to the wartime period and was stable thereafter. In provinces in which the war was most intense, mortality did not decline from the prewar period to the wartime period but declined after the war, consistent with an adverse effect during the wartime period. The authors however note that their data are limited by assignment of birth location on the basis of mother's current residence and by inadequate information on areas of war activity. From the point of view of this thesis, it is argued that during the war, there was some unconscious effort to ensure the survival of infants than was usually the case presumably, as a guarantee against loss of lives.

On the other hand, an attempt to examine the chid-survival hypothesis at an individual level has produced a counter opinion. According to Potts and Selman (1979) Chowdhury and his colleagues have considered the effect of child mortality experience on subsequent fertility in Pakistan and Bangladesh. The study noted that if a child dies, the next birth is brought forward, but this shortening of the pregnancy interval seems to be not a conscious choice to replace the dead child in the family, but a consequence of the

woman not lactating. Conversely, any fall in fertility that results from an increase in lactation and longer birth intervals consequent upon a reduction in infant mortality tends to be negated, in terms of population growth rates, by the fall in mortality.

CHAPTER SEVEN

CONCLUSIONS AND SUGGESTIONS FOR FUTURE WORK

By analysing the trends in vital statistics, with particular emphasis on births, of selected countries during the period of the two world wars, the conclusion arrived at in this study is that generally in almost all societies or nations that engage in war, there is a consistent pattern of a rise in fertility after war, irrespective of where the war is fought, and in some instances, during the war period especially in cases when nations have fought wars on their own territories. These rising trends, it is believed, are motivated not only by conscious social, cultural and economic factors, but more importantly by an unconscious desire on the part of humans for re-birth after disruption occasioned by a war. This final chapter discusses briefly the approach adopted in this study, which also includes an overview of the analysis and major findings and their implication for theory. The discussion concludes by considering the application of the theory to other contexts of study especially, in respect of developing countries today and offer some suggestions for future research in this direction.

The Study:

Ten countries were selected for the study mainly on the basis of their participation in either one or both of the two world wars (with the exception of Switzerland) and data on these countries were obtained from published sources, journal and newspaper reports, and television interviews. The introduction is a general overview of some authors' perspectives of how demographic variables cause violence or war and vice versa. This is followed by a brief discussion of psychoanalytic theory with particular emphasis on

Freud's theory of the life and death instincts. This theory was very central to the thesis since the study sought to prove the hypothesis that an increase in fertility during war and immediately thereafter emanated from the functions of these instincts as they operated to counter the effects of each other, thus resulting in an unconscious motive for large family sizes following massive disruption (e.g., deaths, destruction of social life, dislocation of economic infrastructure, etc.) occasioned by war. It was noted, however, that even though Freud's theory is based on the individual, it could apply to the populations under study since society consists of individuals who are assumed to possess similar instincts.

This was followed by a discussion of the different perspectives of fertility analysis which was meant to provide some broad understanding of the subject-matter of fertility which formed the general context within which the study was to be conducted. This set the stage for the development of the theoretical models and hypotheses of war and fertility. In order to analyse and interpret the data, simple graphs were employed to trace the trajectory of births before, during and after war. In addition, other vital statistics (deaths and marriages) and an economic indicator in the case of some countries were also included in the analysis to facilitate the interpretation of the observed trends in births within the context of its causal relationship with one or more of these other variables. The study however noted the inherent limitations involved in using absolute numbers for such an analysis.

Overview of Major Findings:

The results of the study came out strongly in support of the main thesis that in all societies or nations that engage in war, there is a rise in fertility immediately after the

war, and in some instances, during the war. This increase, it is argued, is influenced by an unconscious motive for re-birth after a war or as a sign of defiance on the part of an oppressed group of an oppressor or enemy nation. These findings support the view that the desire to ensure the survival of the human species during war and thereafter is a response by the life instincts to deaths and destruction resulting from war and which fact could be justified within the context of Freud's psychoanalytic theory of the life and death instincts.

In fact, for England and Wales in both world wars, fertility went down in each period that the war started (i.e., 1914 and 1939). Fertility recovered during the First World War in 1916 and again immediately after the war in 1919 and 1920 (see Figure 8). Similarly, during the Second World War, fertility recovered in 1943 and 1945 and continued to increase in the subsequent two years immediately after the war (i.e., 1946 and 1947). Relatively similar trends are observed in Italy, Germany and France. Also, Japan, West Germany, Yugoslavia and Poland all exhibit the same phenomenon although these increases and their durations differ somewhat. It is noted, however, that all the above countries engaged in wars on their own territories.

For countries such as the United States and Canada which fought outside their respective countries, the trend was even more pronounced; there was a sustained increase in fertility spanning a period of more than two decades after the Second World War. Switzerland, a neutral country, also experienced some brief periods of fertility increases at various times during the two world wars. The study notes that some of the brief periods of fertility increases which are observed in the case of some countries are attributable to

unconscious motivation which, as has already been pointed out, is relatively short-term. Ultimately, with the cessation of hostilities and a return to normalcy, people are more disposed to making fertility decisions based on other factors such as existing economic conditions, which explains the sustained increases experienced by other countries.

It is argued also that these increases in fertility immediately after, or in the midst of war may be motivated as an unconscious measure of defiance against an enemy. The former situation may apply to the general situation in which a nation engages in war, either outside its boundaries or on its own territory, whereas the latter scenario may apply in the case of societies or nations that engaged in a prolonged war within their own boundaries (e.g., England and Wales), the difference here being the timing of births. In another scenario, high birth rates may be a response of a minority group even in peace time to augment its population in order to firmly consolidate its position within a political system in the face of subjugation or oppression by a majority group.

Theoretical Synthesis:

Although the net impact of war on fertility is difficult to assess, this study has supported the thesis that generally, in all societies or nations that have engaged in war, there has been an increase in fertility immediately after the war, regardless of whether the war was fought on their home territory or not. Model 3 relates to this situation. For some other group of societies that engaged in war on their own territories, there have been instances when fertility increases were registered during the course of the war as depicted in Model 4. However, it is important to point out that the duration of the fertility increases may vary from society to society or nation to nation. These variations may be due to the

way each society or nation responds to the perversities of war or political oppression. Figure 17 therefore presents a synthesis model which seeks to combine the overall effects of war on fertility as the outcome of the analysis would seem to suggest.

The study also suggests the fact that there may be a causal relationship between economic conditions and marriage. It is revealed that prosperous economic conditions gave rise to increased marriages, at least during that period, which most likely led to increased births in subsequent years. Also, the analysis would seem to suggest some form of causal connection between deaths and births within the context of psychoanalytic theory although the evidence does not support a more pronounced and consistent trend as in the case of births.

Application of the Theory:

Finally, the study considers the possible applications of this theory, which, like any other theory, raises some issues of concern. First, it is important to point out that even though there is a fairly consistent pattern of an increase in postwar fertility among most societies or nations that have engaged in war, the application of this theory to the case of developing countries involved in wars today would be problematic for the simple reason that this and other studies (e.g., Easterlin, 1966) are based on data of developed countries.

Secondly, it is noted that some of the high birth rates recorded in Bosnia, Liberia and Rwanda have been achieved against the backdrop of extreme hopelessness, sometimes, in refugee camps and presumably, in the society at large when economic, cultural, and social conditions had very little meaning for the survivors of such wars. These cases are very instructive in that, if two contrasting nations like the United States

and Bosnia, the former a wealthy super power and the latter, a relatively destitute country should both experience similar fertility behaviour during or after a war, then economic recovery is not a preponderant factor in explaining a rise in fertility after a war.

Another issue which poses a serious problem to the application and generalisation of this theory to developing countries is the related issue of births arising out of rape cases. Although these may not be very significant as noted elsewhere, rape cases, which were not very prevalent, at least, on a widespread scale during earlier wars as reported in some recent wars is a factor which needs to be taken into account in any study of overall postwar rise in fertility. This is because the phenomenon has assumed a more common feature of most civil wars in developing countries. What compounds the problem even further is the inadequacy or absence of data on rape cases since most of them go unreported.

These findings would therefore seem to present an alternative explanation to, or complement the widely accepted theory advanced by economists and demographers which places primary emphasis on economic recovery and its facilitating effect on marriage and therefore, on rising fertility (e.g., Easterlin, 1966) in explaining the baby boom phenomenon after the Second World War. Cleland and Wilson (1987) share in the skepticism of economic demand theories of fertility (i.e., economic theory of fertility). They concede that economic reasoning undoubtedly has a role to play in understanding fertility behaviour. However, they argue that the central assumption of all economic theories does not provide a plausible explanation of fertility trends during the last 100 years. They assert that the fact that economic causation has remained dominant in the

literature reflects several things: the common assumption that social change is driven primarily by economic forces; the inherent plausibility of this notion when applied to human fertility; and the willingness of economists, unlike sociologists and anthropologists, to formulate precise concepts and hypotheses which, in principle, though not in practice, are open to empirical validation.

Winter (1992) opines that it would be foolish to deny altogether the importance of economic explanations for changes in marriage and fertility rates over history. Any account of nuptiality must take note of labour-market and social-policy shifts that made marriage and childbearing more attractive during the post-war years. He notes that scholars have increasingly come to realise that purely economic factors can "explain" fertility fluctuations in only the most general way. Winter advises of "the need to begin with the assumption that women's attitudes were at the heart of fertility trends in this period (i.e., war and postwar periods), and that such attitudes embodied more than a reflex reaction to economic conditions" (p.305).

In fact, the female cohorts which produced the larger families of the postwar period were born in the 1920s and 1930s. Having lived through World War II either as children, adolescents, or young adults, a substantial proportion of these women, for a variety of reasons came to see early marriage and relatively large families in a more favourable way than did their mothers' generation. This is because these cohorts witnessed the havoc caused by the war and were therefore favourably inclined towards large family sizes as a measure to restore hope in life and society than their mothers' cohorts which had not experienced any war.

Winter makes reference to the fact that French scholars have disputed the reasons why the birth rate rose under the Nazi occupation and he asks: "Could it not be that couples saw marriage and raising children as a kind of inner migration, a withdrawal from a disturbed and disturbing public realm to supposedly simpler and more certain rewards of the private realm?" He continues that "even among those who did not know the humiliations of invasion and defeat, similar reactions may be discerned. The stress of a struggle for survival, the tensions of separation and loss of loved ones, the anxiety of waiting, hoping, and struggling against despair - these were experiences most Europeans shared, to a greater or lesser degree, in the two world wars. The reaction against this dark phase of European history took many forms. The post-1945 revival of family life was one of them" (p.308).

The point is made that when World War II broke out, there was in many countries an accumulation of postponed marriages and births which was being rapidly reduced as economic conditions improved. For many countries, both those which participated in the two World Wars and the neutral, unemployment vanished shortly after war began and people were generally better off than during depression. As noted previously, prosperity generally leads to increased marriages and births but this explanation is not offered as completely covering the case. There seems to be little doubt that this change from depression to boom was a factor of much importance in the United States and Canada and probably in some of the European countries which have been studied. But "it seems likely, however, that there were also other factors of less tangible sort (psychological) which operated to raise the birth rate chiefly through increasing the number of marriages

and reducing the interval between marriage and a first birth" (Thompson, 1948:91).

While no one can point to such factors with assurance, we do know from our study that in prosperous times marriage rates, and later birth rates, rise and there is no question that on the whole, economic conditions have a role to play. How far these economic conditions are responsible for the psychological atmosphere favouring a high marriage and birth rate cannot be conjectured. The fact that many women were catching up to have children they could not have during the depression and the war is itself indicative of an unconscious desire to have a family. The tendency for couples to have three or four children instead of one or two, also suggests that couples were psychologically open to having more children, not only because they could afford them more, but also because of an unconscious need to exalt life after a protracted war, a condition which seems to characterize humans in general. In fact, Teitelbaum and Winter (1985:79) argue that "in Eastern Europe, the rise in the birth rate that followed the Second World War was in large part a compensatory reaction to the appalling human losses suffered among civilians and soldiers on the East Front." This is, in fact, a reflection of what the thesis contends as deriving from Freud's theory that the life and death instincts always act to oppose or neutralize each other.

Wyatt's (1967) comment on the matrix of motives surrounding human reproduction may prove informative at this juncture. According to him, "reproduction is not experienced as a manifest process nor a clearly defined need, but as an event on several psychological levels and as a hierarchy of needs. The more decisive needs are usually the ones hardest to apprehend, concealed as they are behind attitudes and

convictions...." (Wyatt, 1967:29). Perhaps having children is an unconscious human response to the devastation of war and its perversities and may be humanity's way of saying "we are alive." It would as well serve as a strong manifestation among humans to reaffirm the sanctity of life.

In summary, the study concludes that the excessive emphasis placed on economic recovery in explaining postwar fertility trends is overly misplaced. Several writers including Ronsin (1995), Winter (1992) and Thompson (1948) referred to elsewhere in this study have all acknowledged in their works that there is more of a psychological explanation to postwar rise in fertility than the predominantly economic theories would seem to imply. The argument is made that there is in all humans an unconscious desire to seek rebirth, as a manifestation of the life instinct which Freud contends is in constant opposition to the death instinct. However, this study asserts the generality of this phenomenon in that, it prevails through time and space. Finally, this chapter concludes with some suggestions for future work.

Suggestions For Future Work:

This study should generate some interest in revisiting existing theories of postwar fertility trends. Most importantly, some attention should also be focused on fertility during the war years as well. The conceptual framework presented in this study, it is believed, could serve as a useful guide for future research in the area of war and fertility, particularly in the contemporary context. Regression analysis may be applied to the data examined in this thesis (see Appendix) to test the extent to which economic conditions influence marriage rates and births in the context of war conditions. Such an analysis

should allow a time-lag for the effect of war on fertility to be estimated. Then following from this, one could assess the extent to which there is unexplained variance in fertility, which may be a reflection of the effects posited regarding unconscious motives for reproduction.

Since most theories of war in the literature are dominated and shaped by the two world wars, it would be very prudent to pursue any of the tasks suggested above using as the term of reference cases of the many civil wars in developing countries. This would also serve as a critical test for existing theories since one would be presented with a different situation and environment. Any fieldwork that would be undertaken to collect data in respect of such a study should comprise mainly the use of written unstructured questionnaires and personal interviews. Ideally, personal interviews are the best format for such a study since it enables the interviewer to probe further with follow-up questions to elicit certain types of information, which, in the view of the study, would suggest an unconscious motive for a large family size.

In order to be able to deduce such intention from respondents, information should be gathered in two parts. Generally at the societal level, some efforts should be made to investigate the extent of disruption suffered by the society in question (e.g., deaths, destruction of social and economic infrastructure, involuntary migration, etc.). Some idea of the fertility profile of the society for the period preceding the war as far as possible would serve as a useful benchmark for analysis. Some other information to be gathered should relate to the duration of the war itself, if it has ended or how long it has been raging, the various ethnic factions involved and their respective numerical strengths

assuming it is a civil war. This last bit of information would be vital for a realistic test of the minority group status and fertility theory since most of these civil wars derive their origins from ethnic political agitations. At the individual level which would prove most critical for a test of the unconscious motive for re-birth, questions should aim at soliciting information from respondents in connection with their actual and ideal family sizes and their intentions regarding future births.

For example, to operationalize the concept of unconscious motive, information would have to be sought regarding the respondent's motivation for conception prior to the war, during the war and thereafter. If a respondent is found to desire an additional baby beyond her stated actual and ideal family size during the period of war, and possibly thereafter, against the background of massive disruption, the motive underlying such an extra birth could be conceptualized as a possible indication of an unconscious desire for re-birth deriving from the life instincts. Interviewers should ensure that unremarkable or evasive answers given in response to standardized questions are followed by probes aimed at encouraging the respondent to mention some reasons why should would prefer to have another baby in the midst of an otherwise hopeless situation.

Enough evidence abounds in developing countries to support such a thesis in view of the many births recorded in refugee camps and presumably, births in the relatively peaceful parts of the society at large which do not receive much publicity during wartime. Lastly, such a study would also provide an opportunity for testing alternative approaches by which births arising out of rape cases could be reasonably estimated and factored into the general equation of war and fertility.

Table 1: CHILD/WOMAN RATIOS BY RELIGION, NORTHERN IRELAND, 1937 TO 1961; REPUBLIC OF IRELAND, 1926 TO 1961

Number of Children Aged 0-4 years per:					
Religion & Year	100 Women Aged 20-44 yrs. N.R.	R.I.	N.I. as a percentage of R.I.	100 Ever-Married[a] Women aged 20-44 yrs. N.I.	R.I.	N.I. as a percentage of R.I.
Catholic:						
1926	b	61	b	b	b	b
1936/1937[c]	56	53	106	119	b	b
1946/1951[d]	69	61	113	131	121	108
1961	85	76	112	137	126	109
Non-Catholic						
1926	b	39	b	b	b	b
1936/1937[c]	42	33	127	76	b	b
1946/1951[d]	46	43	107	69	78	88
1961	55	49	112	74	75	99

[a] Total women in age group less single women

[b] Not available

[c] 1936 -- Republic of Ireland; 1937 -- Northern Ireland

[d] 1946 -- Republic of Ireland; 1951 -- Northern Ireland

SOURCES: Calculated from: Northern Ireland, 1937:12-13, 1951:19-20, 1961a:23-24; Ireland, 1926: 99, 1936:103, 1946b:32, 34, 1961b: 36, 38.

Table 2: ESTIMATED LEGITIMATE BIRTH RATES AND CRUDE BIRTH RATES BY RELIGION, NORTHERN IRELAND, 1950-52 AND 1960-62; REPUBLIC OF IRELAND, 1946 AND 1960-62

Religion and Period	Legitimate Birth Rate[a] N.R.	R.I.	N.R as a percentage of R.I.	Crude Birth Rate[b] N.I.	R.I.	N.I. as a percentage of R.I.
Catholic:						
1946/1950-52	281	275	102	25.9	23.4	111
1960-62	288	255	113	28.3	22.0	128
Non-Catholic:						
1946/1950-52	150	179	84	18.3	16.0	114
1960-62	163	151	108	19.5	13.2	148

[a]Estimated legitimate live births per 1,000 married women aged 15-44 years in each religion.

[b]Estimated total live births per 1,000 total population in each religion.

SOURCE: Adapted from Walsh, 1970:9, 13.

FIGURE 1: DISRUPTION MODEL OF WAR AND FERTILITY

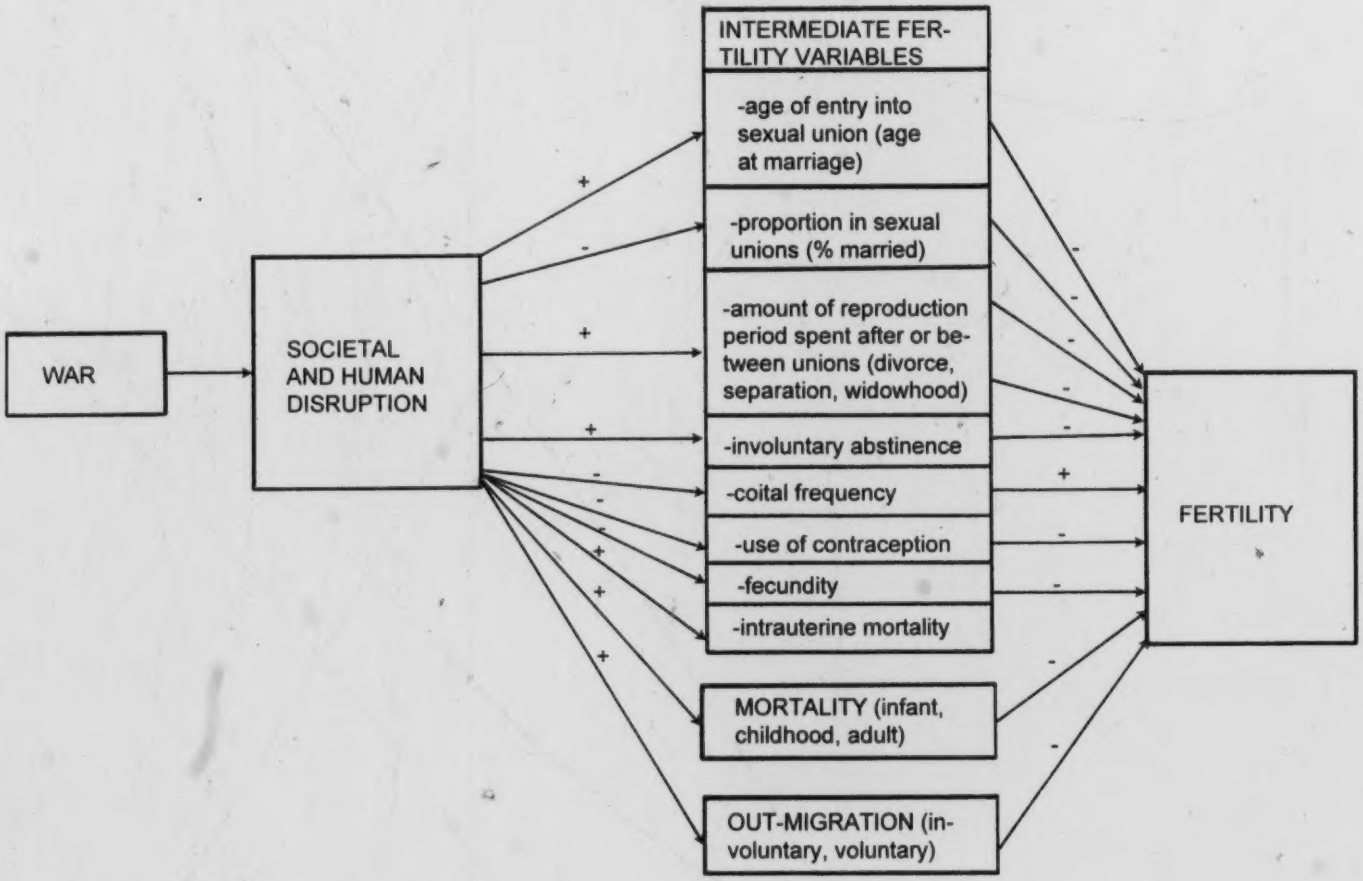


FIGURE 2: GENERAL MODEL OF POST-WAR EFFECTS ON FERTILITY

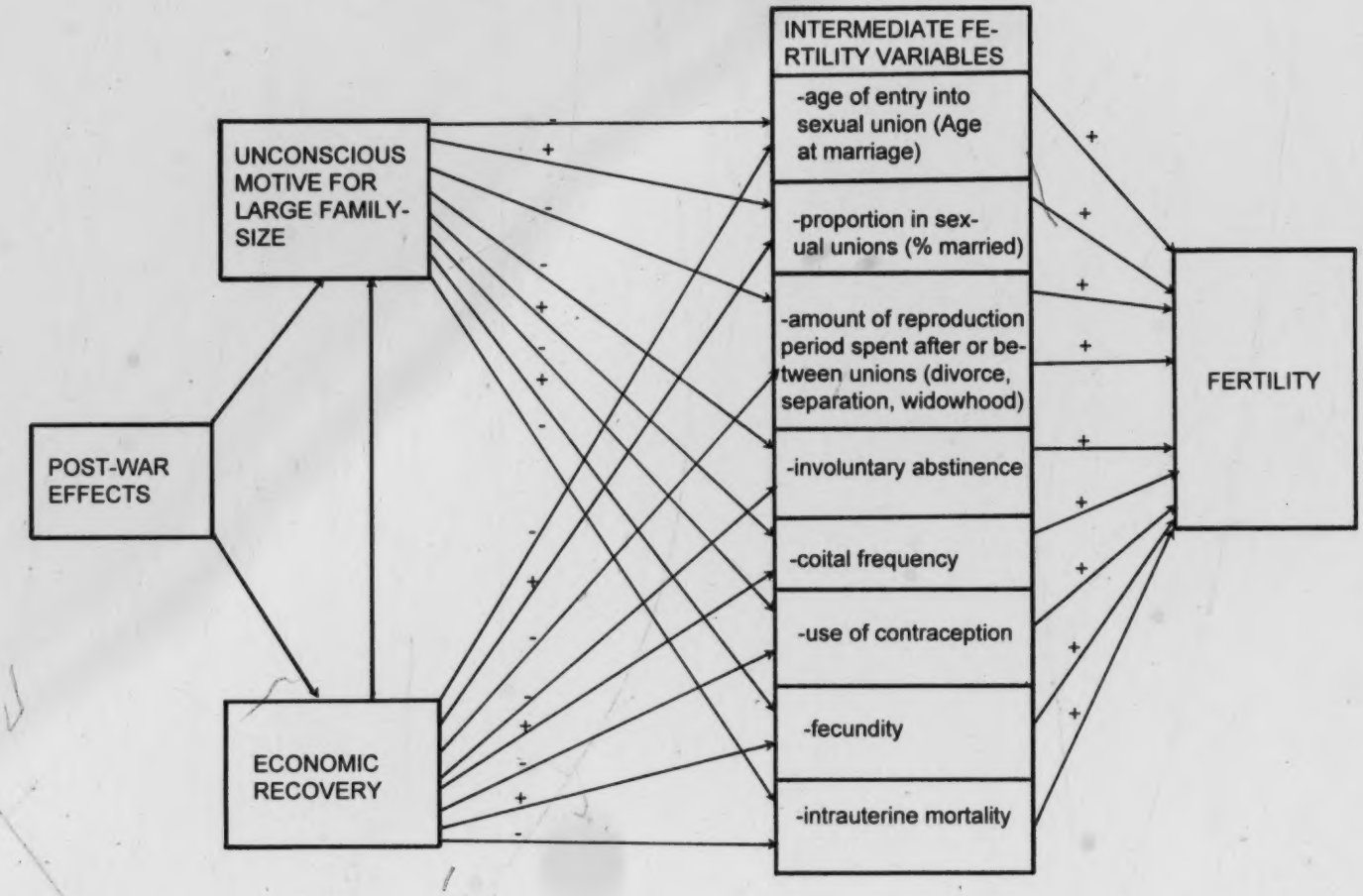


FIGURE 3 (MODEL 3): IMMEDIATE AND LONG-TERM POSTWAR EFFECTS ON FERTILITY

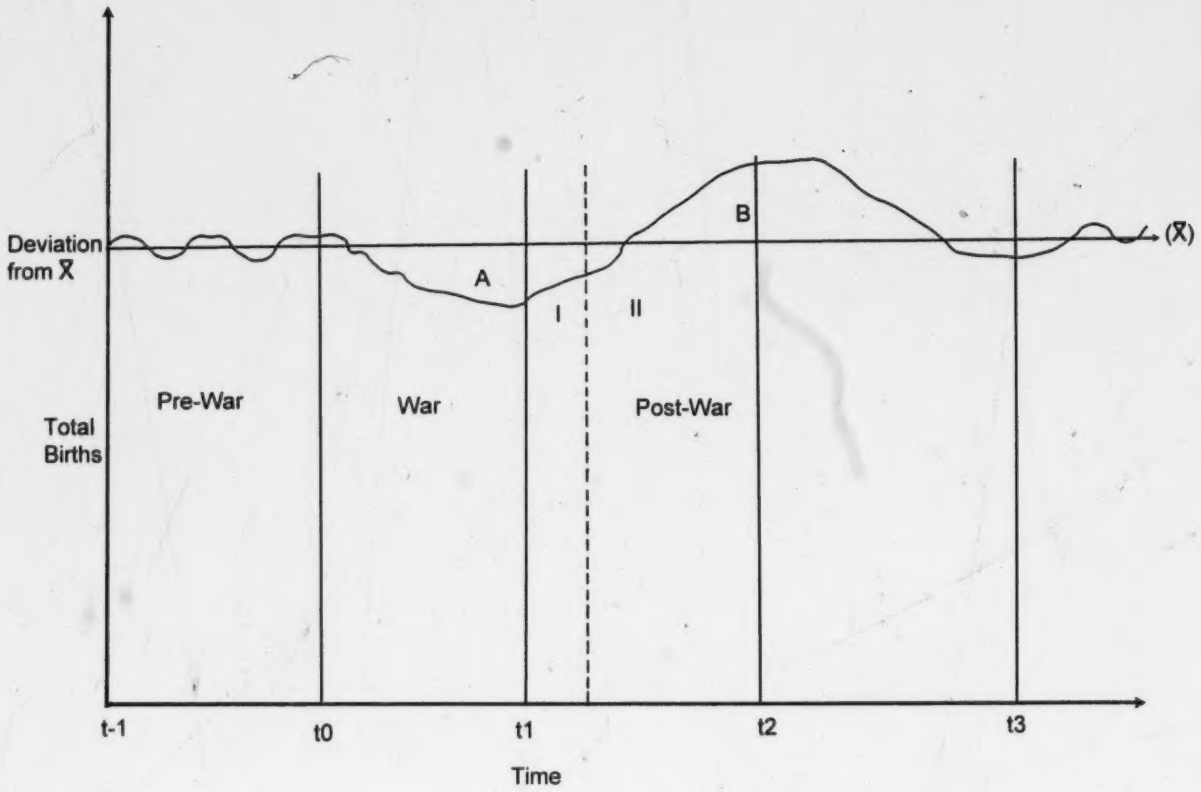


FIGURE 4 (MODEL 4): FERTILITY BEHAVIOUR
DURING WAR AND IMMEDIATELY AFTER

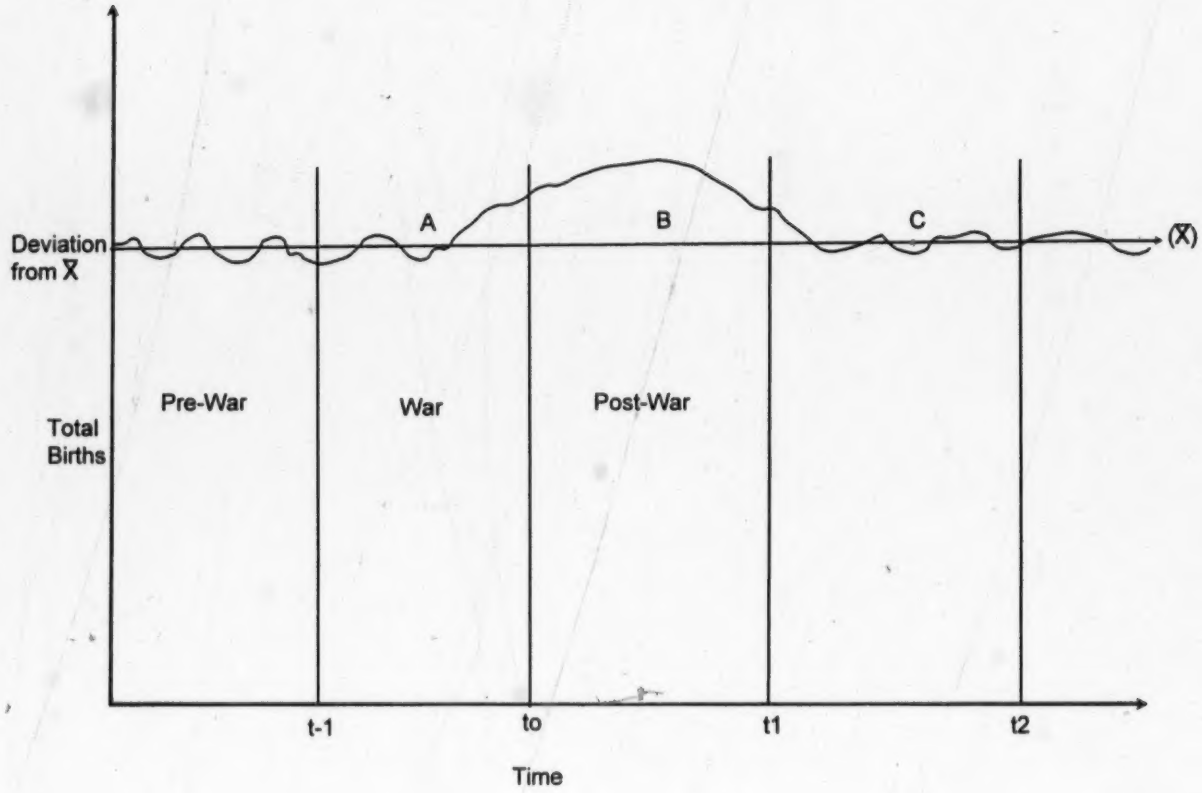
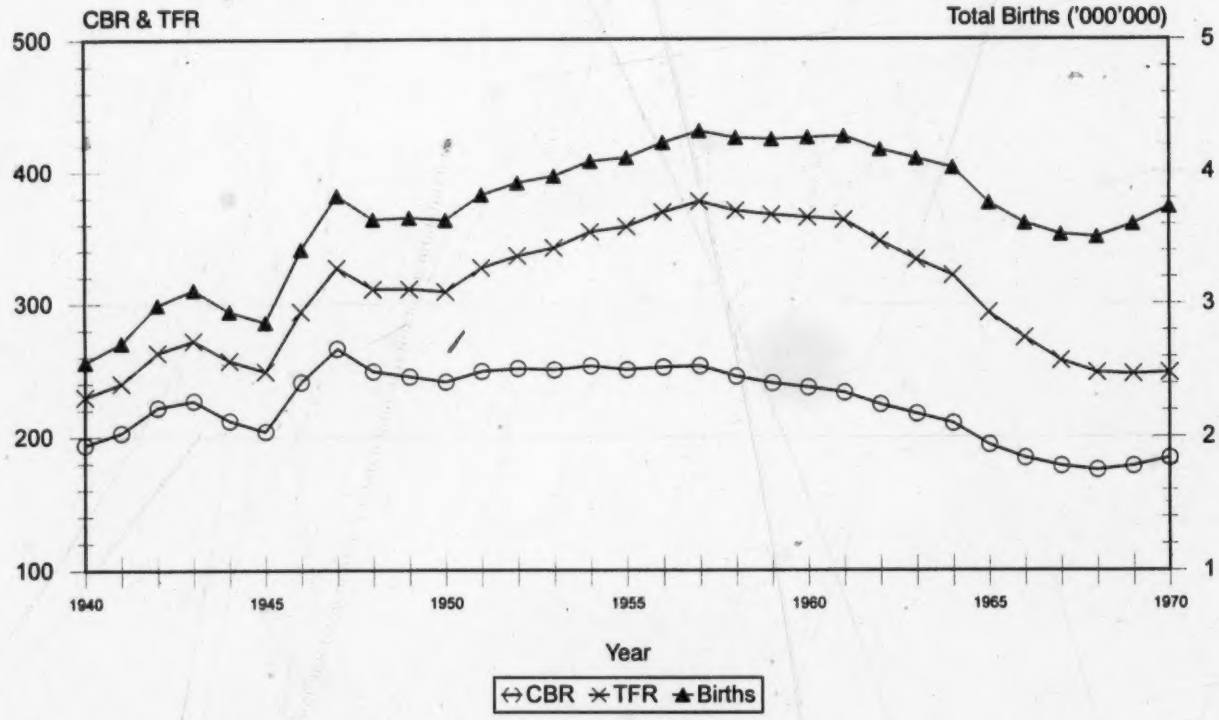
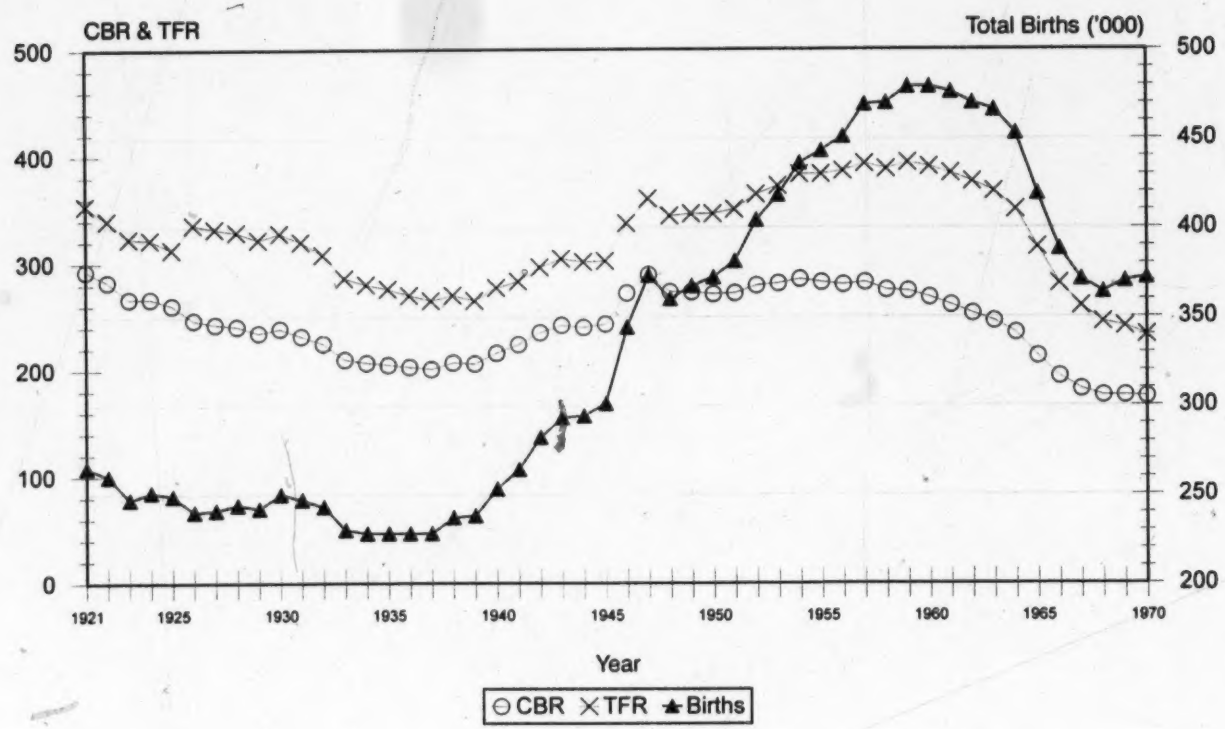


Figure 5a: Crude Birth Rate, Total Fertility Rate and Total Births Compared, 1940-1970, USA



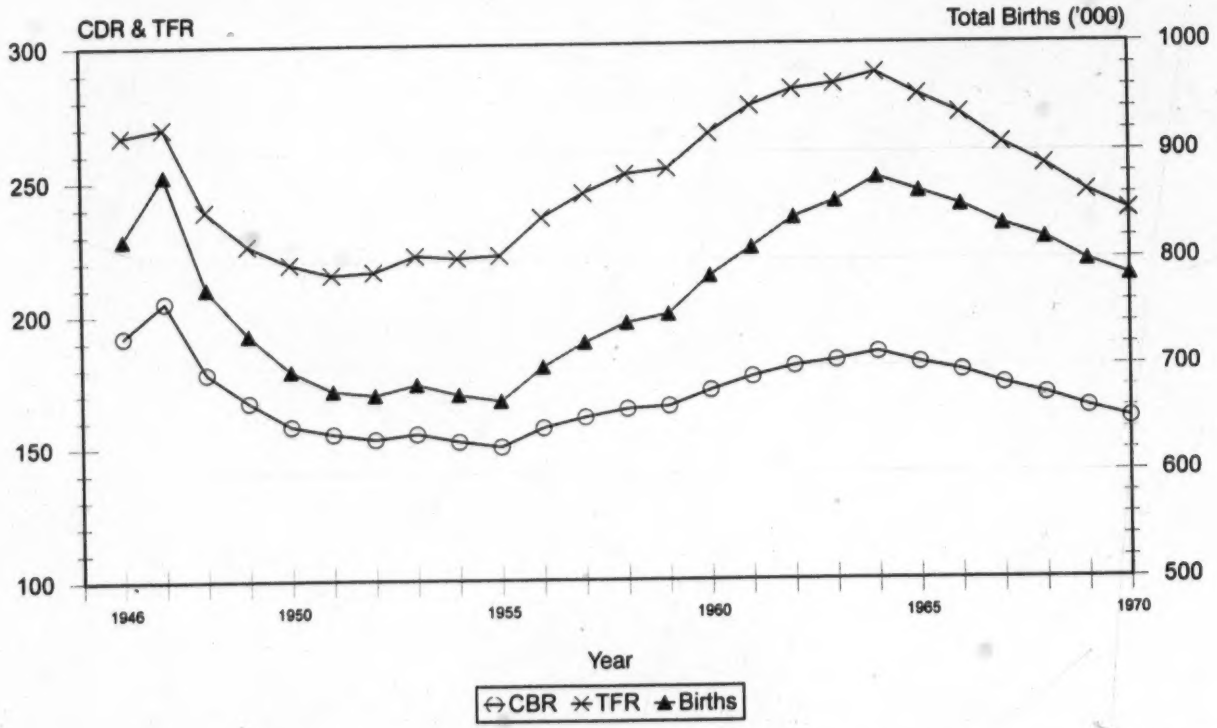
Source: US Department of Commerce, Bureau of the Census, 1975. Historical Statistics of the United States, Colonial Times to 1970, Part 1, pp. 49 & 50.

Figure 5b: Crude Birth Rate, Total Fertility Rate and Total Births Compared, 1921-1970, Canada



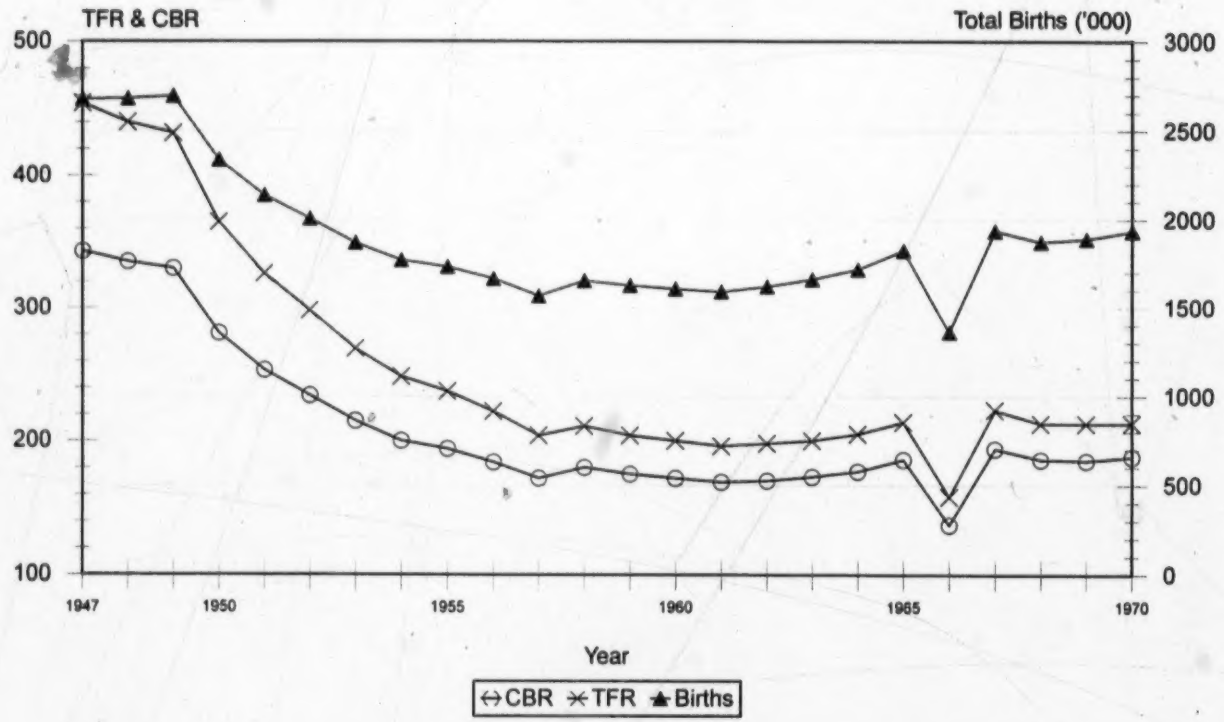
Source: Statistics Canada, Catalogue No. 82-553.

Figure 5c: Crude Birth Rate, Total Fertility Rate and Total Births Compared, 1946-1970, England and Wales.



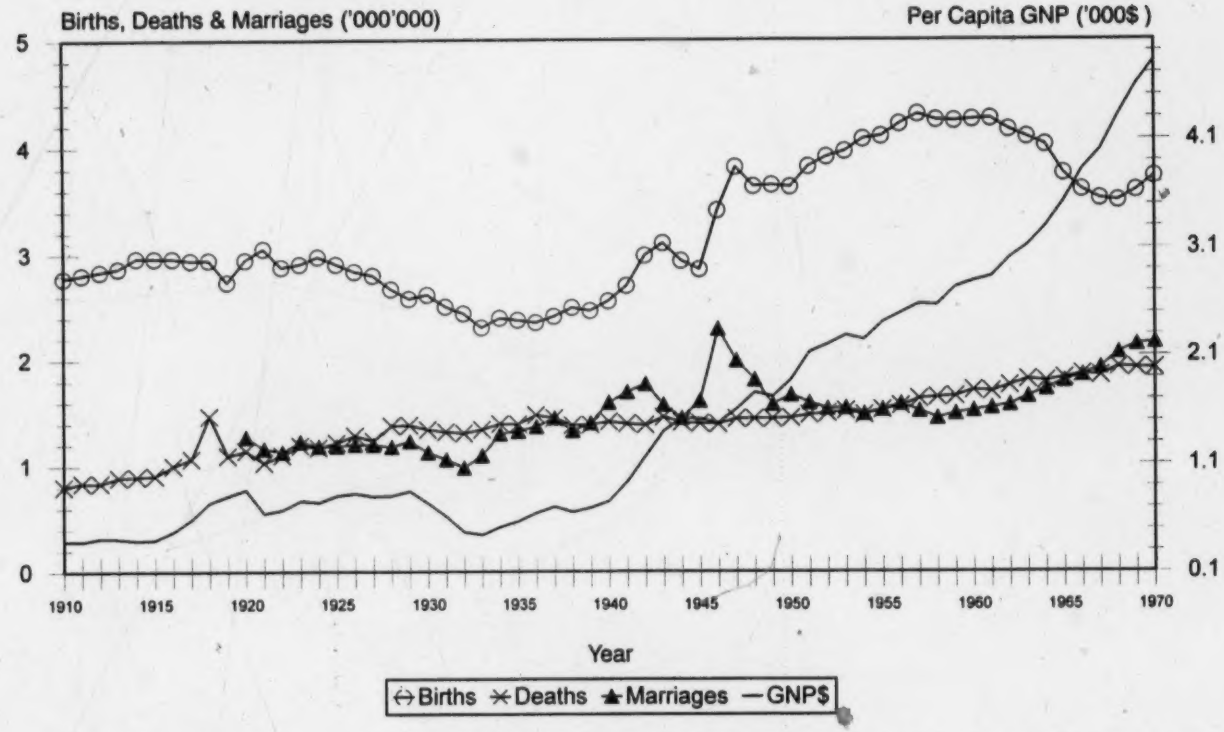
Sources: International Historical Statistics, Europe 1750-1988, pp. 106 & 113; International Historical Statistics, Europe 1750-1975, pp. 106 & 110; Statistics Canada, Catalogue No. 91-524E.

Figure 5d: Crude Birth Rate, Total Fertility Rate and Total Births Compared, 1947-1970, Japan



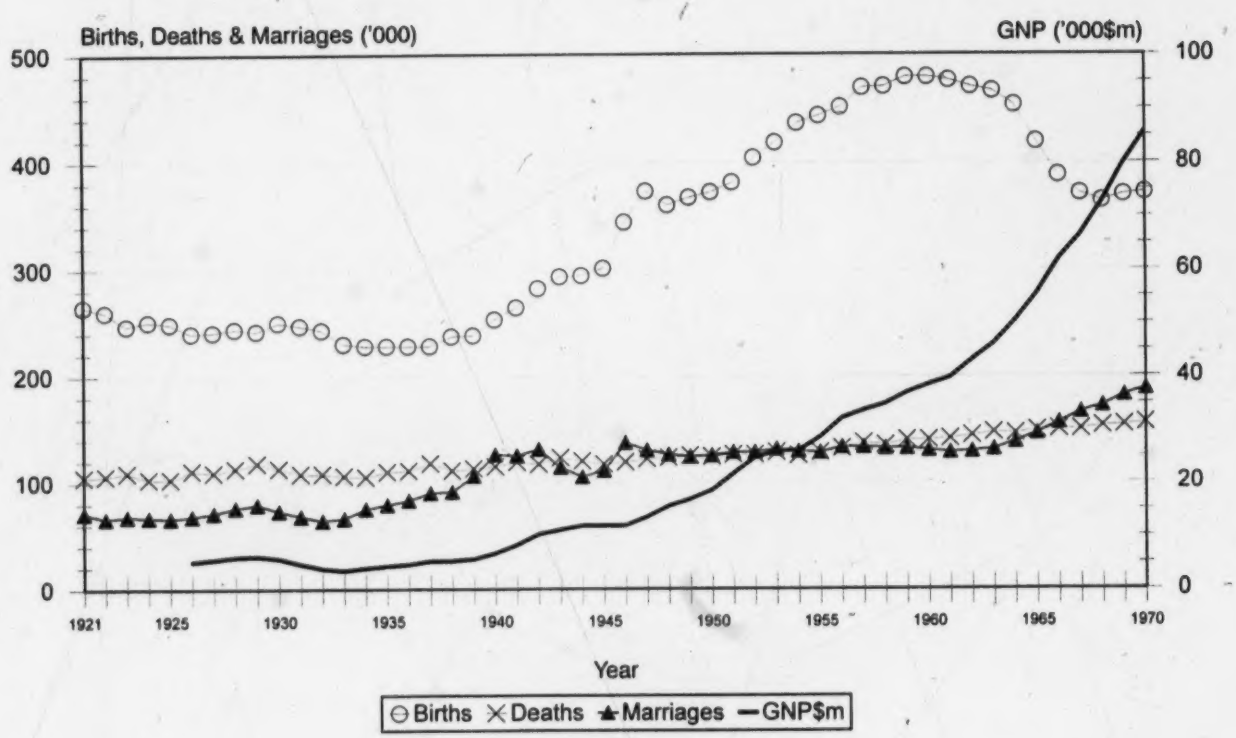
Source: Statistics Bureau, Management and Coordination Agency. 1995. Japan Statistical Yearbook, 1996, pp. 59 & 62.

Figure 6: Total Births, Deaths and Marriages and Per Capita GNP, 1910-1970, USA



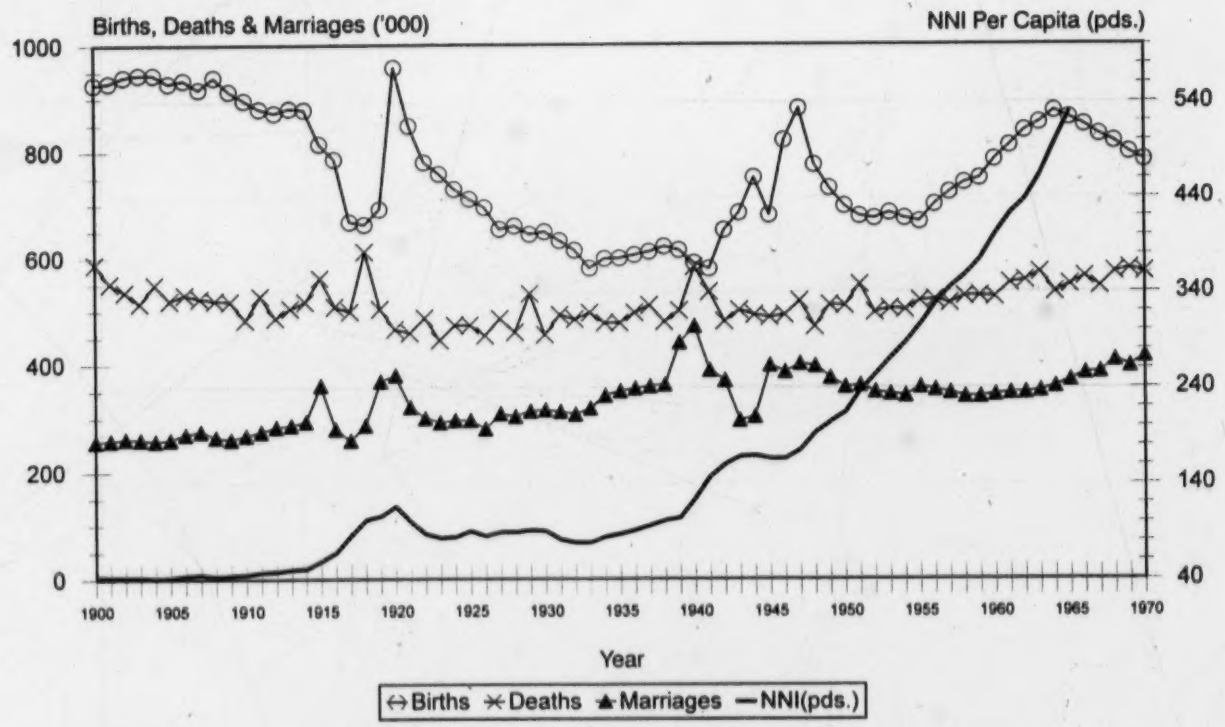
Source: US Department of Commerce, Bureau of the Census, 1975. Historical Statistics of the United States, Colonial Times to 1970, Part 1, pp. 49 & 224.

Figure 7: Total Births, Deaths and Marriages and GNP, 1921-1970, Canada



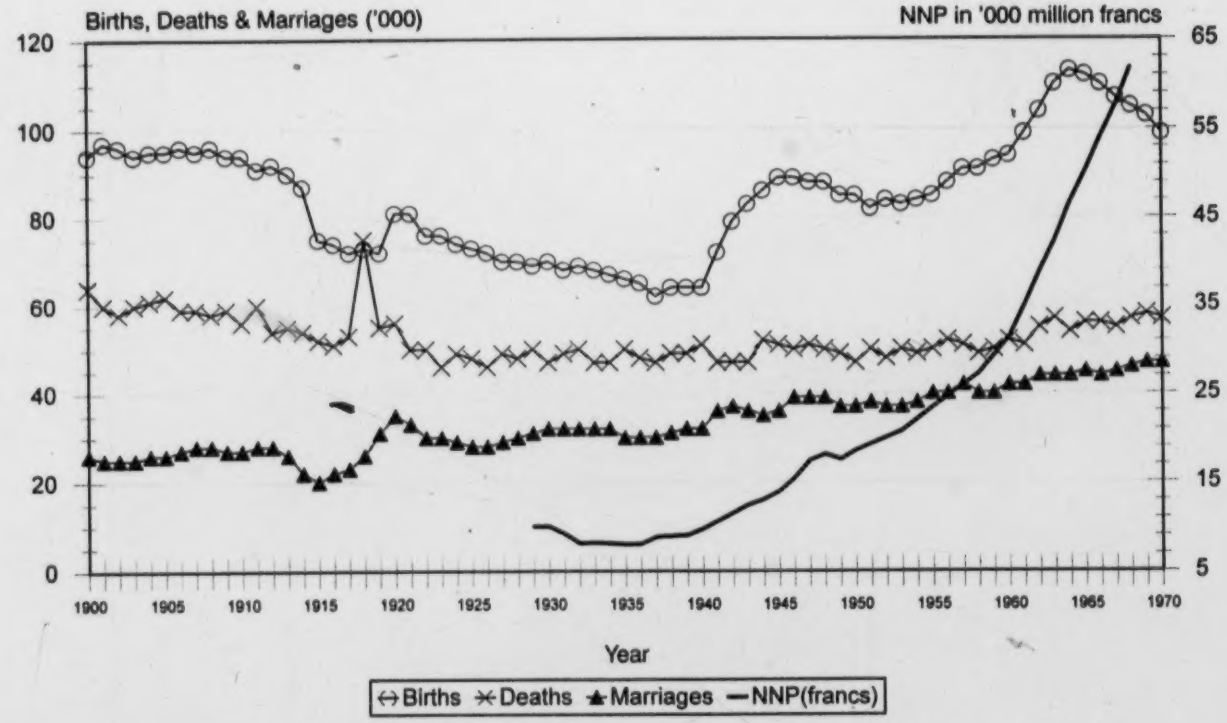
Source: Statistics Canada, Catalogue Nos. 82-553, 82-548, 82-552 & 13-531.

Figure 8: Total Births, Deaths and Marriages and Net National Income (NNI) Per Capita, 1900-1970, England and Wales.



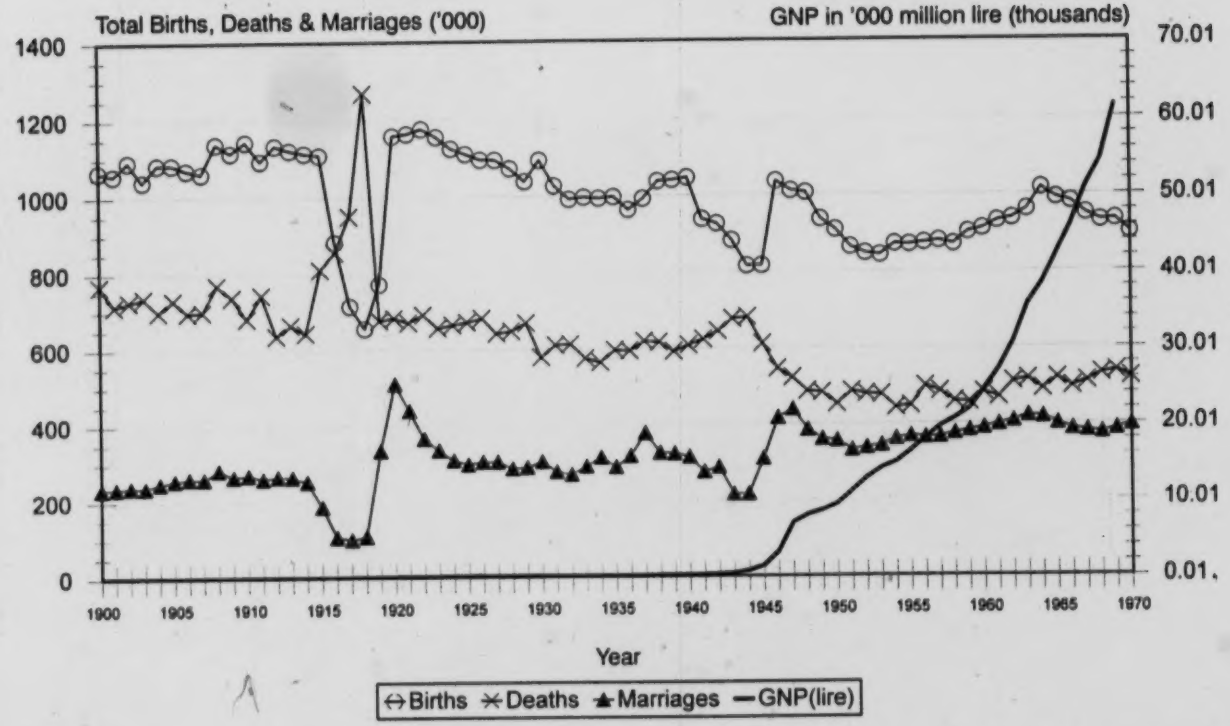
Sources: International Historical Statistics, Europe 1750-1970, pp. 96 & 100; International Historical Statistics, Europe 1750-1975, p.110; Statistical Tables of National Income, Expenditure and Output of the U.K. 1855-1965, p. T 42.

Figure 9: Total Births, Deaths and Marriages, 1900-1970 and NNP in thousand million francs, Switzerland



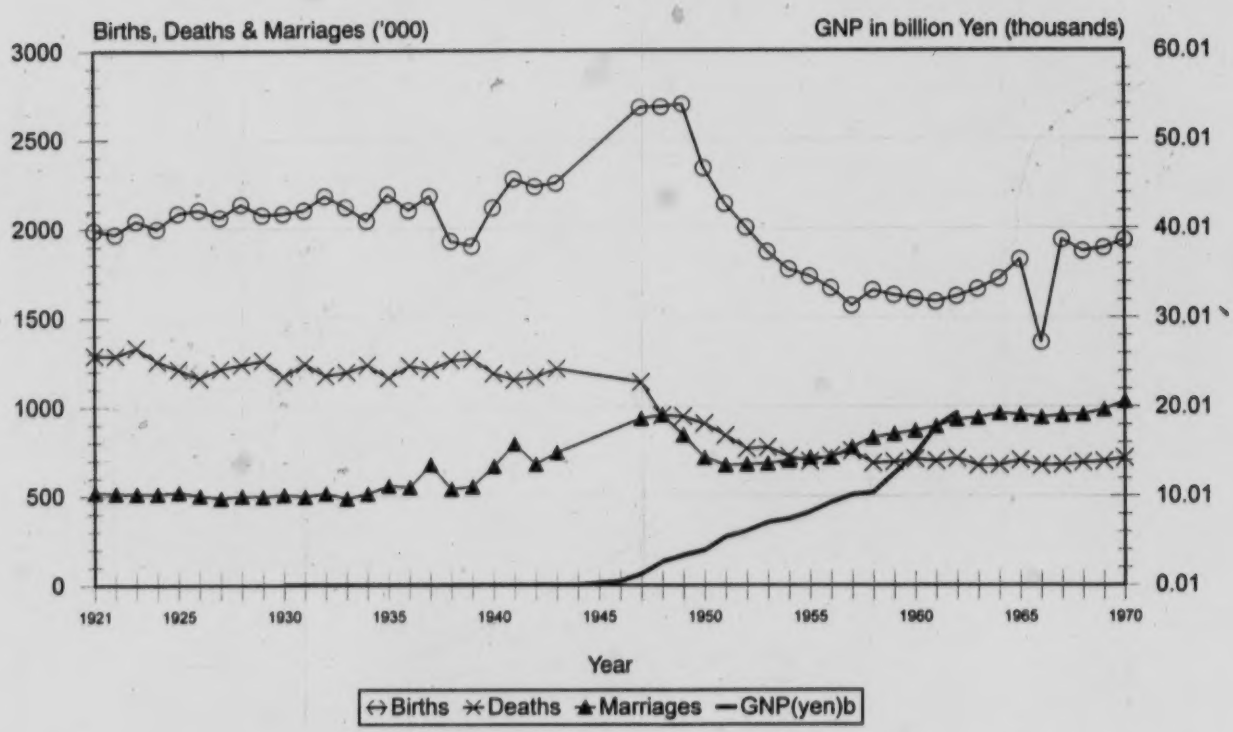
Sources: International Historical Statistics, Europe 1750-1970, pp. 96 & 100; International Historical Statistics, Europe 1750-1975, p. 110; United Nations Yearbook of National Accounts Statistics, 1969, Vol. 1, p. 679.

Figure 10: Total Births, Deaths and Marriages and GNP in thousand million lire, 1900-1970, Italy.



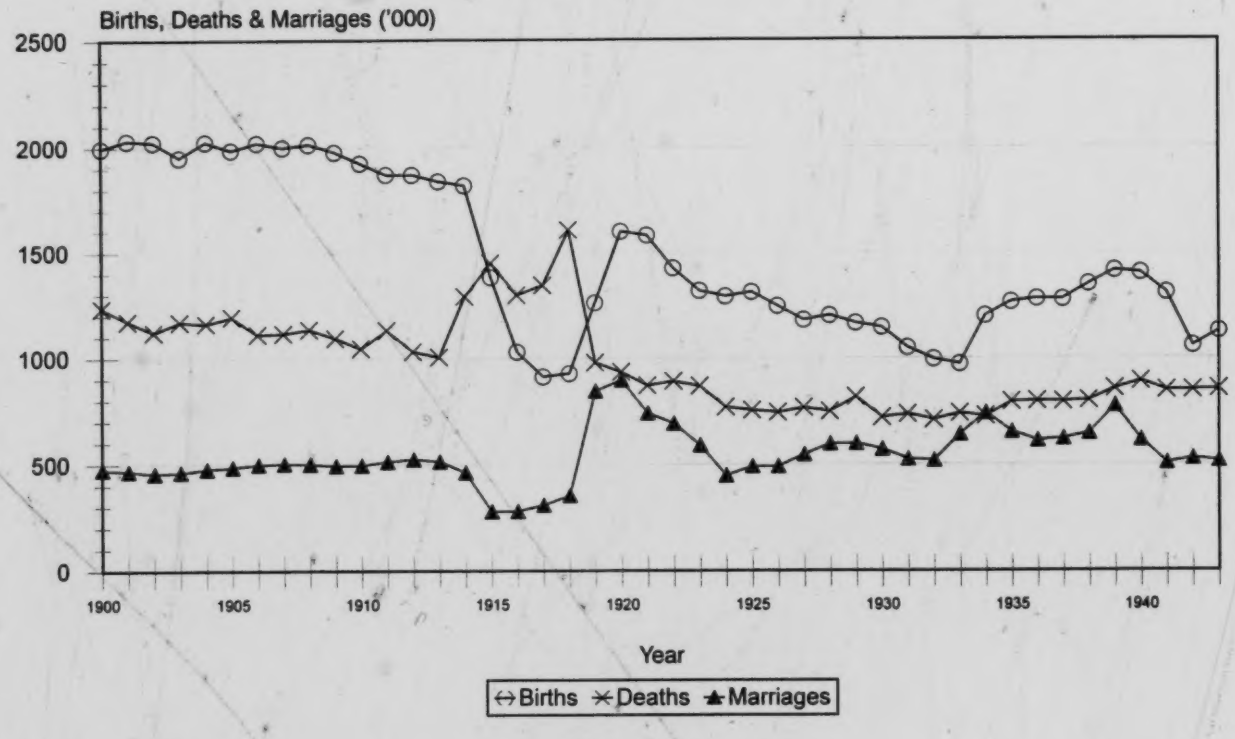
Sources: International Historical Statistics, Europe 1750-1970, pp. 93, 98, 787 & 793; International Historical Statistics, Europe, 1750-1975, p. 108.

Figure 11: Total Births, Deaths and Marriages, 1921-1970 and GNP in billion Yen, Japan



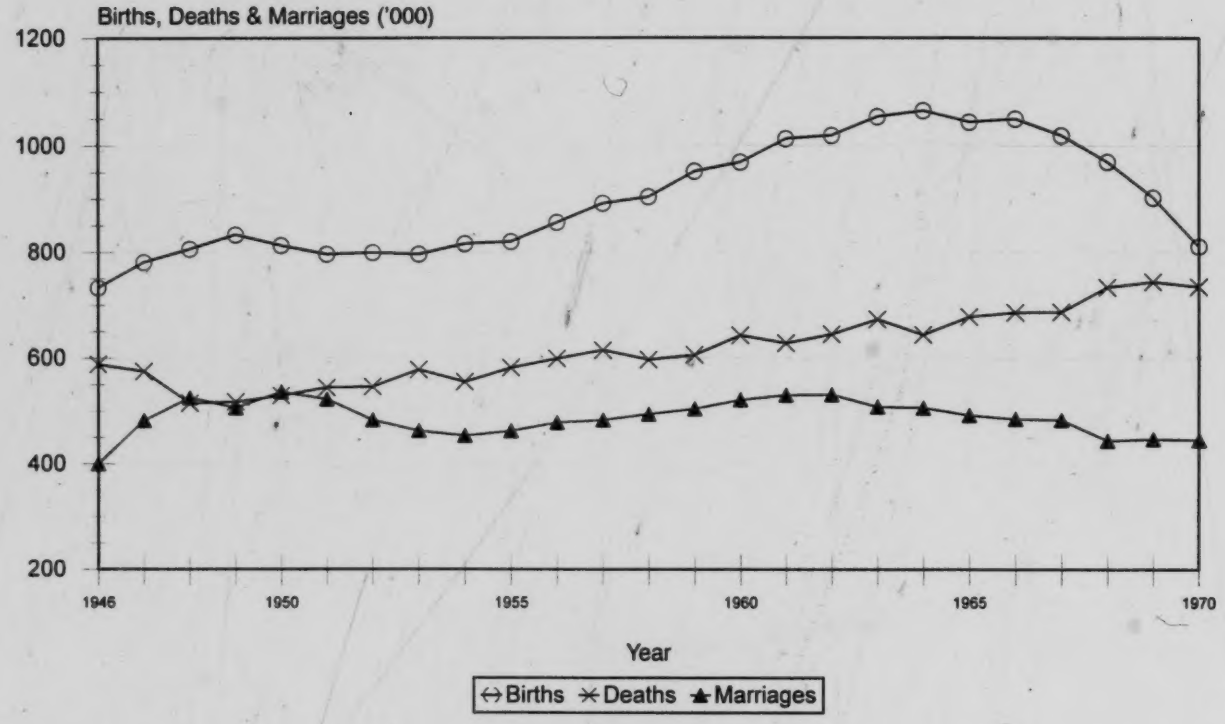
Sources: Statistics Bureau, Management and Coordination Agency. 1995. Japan Statistical Yearbook, 1996, p. 59; Bureau of Statistics, Office of the Prime Minister. 1964. Japan Statistical Yearbook, 1963, p. 403.

Figure 12: Total Births, Deaths and Marriages, 1900-1943, Germany.



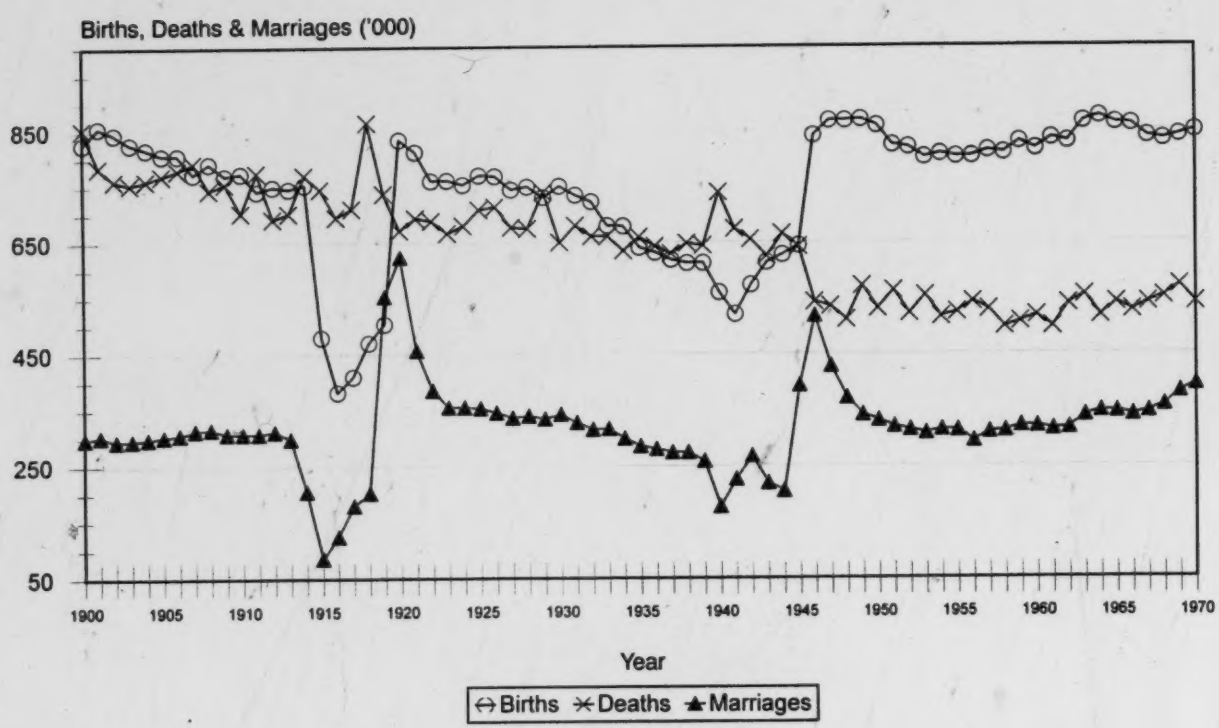
Source: International Historical Statistics, Europe 1750-1970, p. 92.

Figure 13: Total Births, Deaths and Marriages, 1946-1970, West Germany.



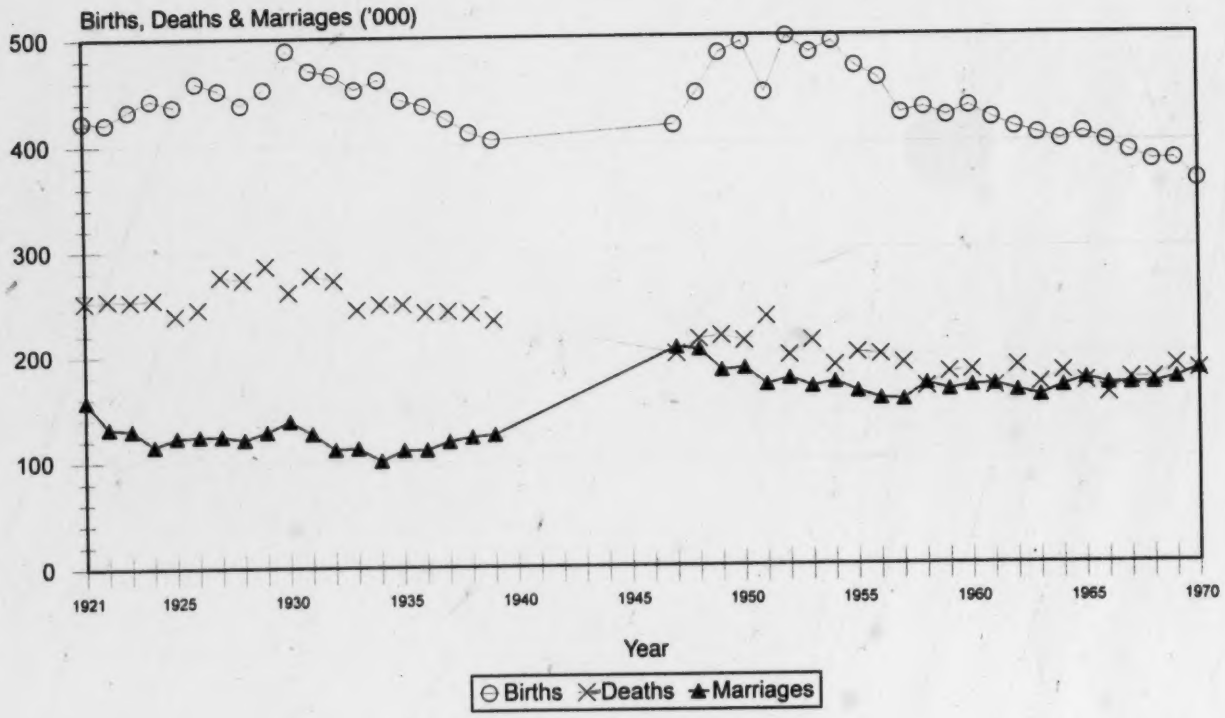
Sources: International Historical Statistics, Europe 1750-1970, pp. 92 & 98; International Historical Statistics, Europe 1750-1975, p. 108.

Figure 14: Total Births, Deaths and Marriages, 1900-1970, France.



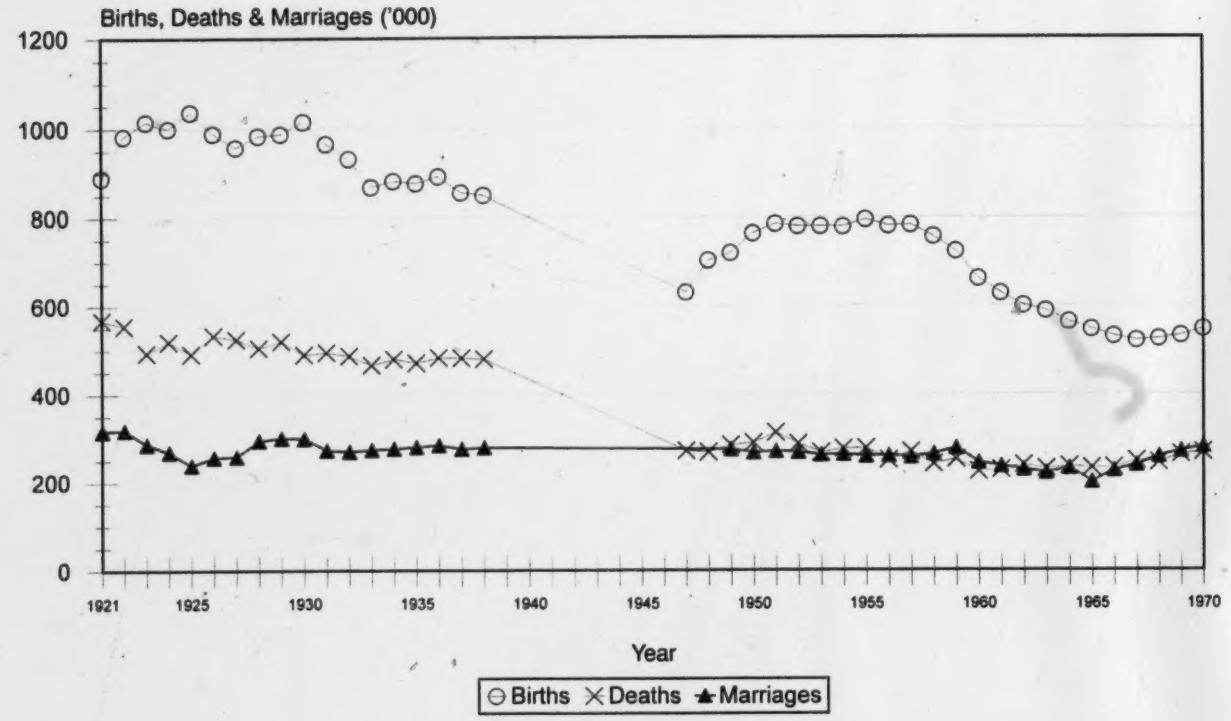
Sources: International Historical Statistics, Europe 1750-1970, pp. 91 & 97; International Historical Statistics, Europe 1750-1975, p. 107.

Figure 15: Total Births, Deaths and Marriages, 1921-1970, Yugoslavia.



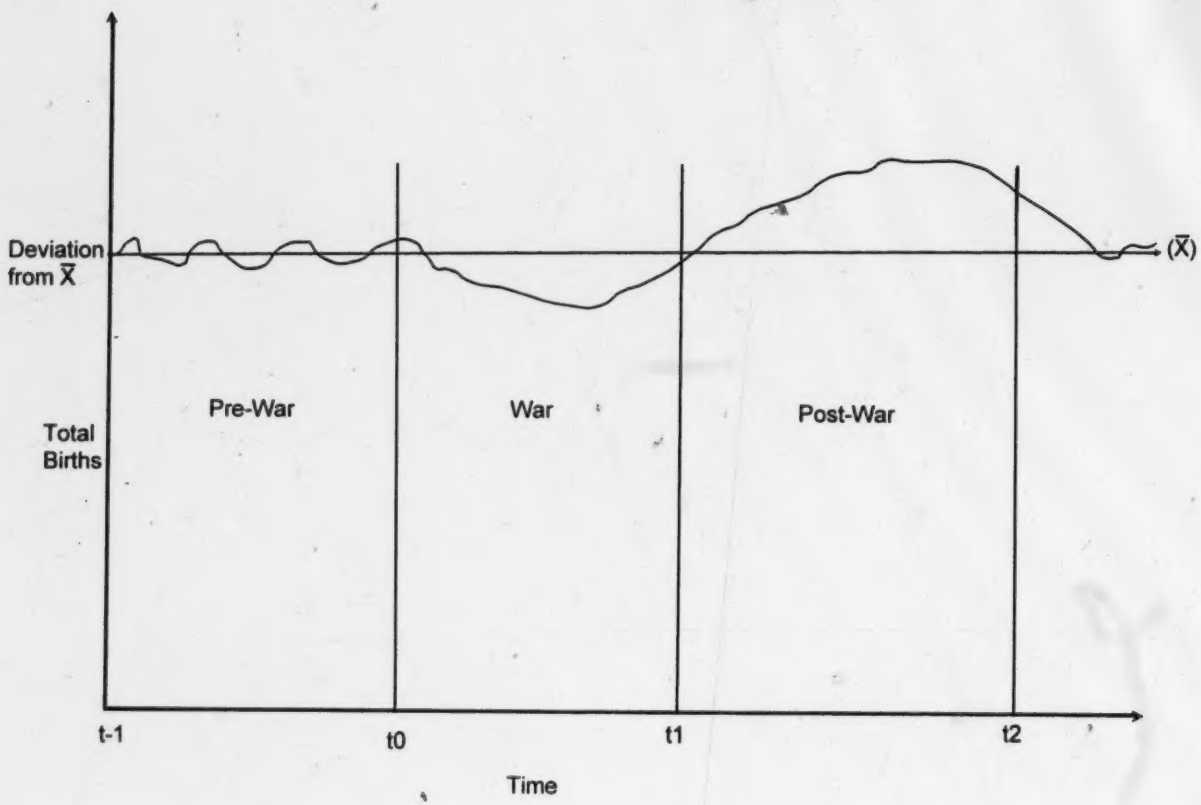
Sources: International Historical Statistics, Europe 1750-1970, pp. 96 & 100; International Historical Statistics, Europe 1750-1975, p. 110.

Figure 16: Total Births, Deaths and Marriages, 1921-1970, Poland.



Sources: International Historical Statistics, Europe 1750-1970, pp. 94 & 99; International Historical Statistics, 1750-1975, p. 109.

FIGURE 17 : SYNTHESIS MODEL OF FERTILITY BEHAVIOUR DURING WAR AND POSTWAR PERIODS



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APPENDIX

Table 1: Population, Births, Deaths and Marriages and Per Capita Gross National Product (GNP), 1910-1970, USA

YEAR	POPULATI-ON ('000)	BIRTHS ('000)	DEATHS ('000)	MARRIA-GES ('000)	GNP $
1910	92407	2777	805	-	382.0
1911	93863	2809	839	-	382.0
1912	95335	2840	838	-	413.0
1913	97225	2869	891	-	407.0
1914	99111	2966	898	-	389.0
1915	100546	2965	909	-	398.0
1916	101961	2964	1002	-	473.0
1917	103268	2944	1069	-	585.0
1918	103208	2948	1471	-	740.0
1919	104514	2740	1096	-	804.0
1920	106461	2950	1143	1274	860.0
1921	108538	3055	1032	1164	641.0
1922	110049	2882	1101	1134	673.0
1923	111947	2910	1193	1230	760.0
1924	114109	2979	1173	1185	742.0
1925	115829	2909	1219	1188	804.0
1926	117397	2839	1286	1203	826.0
1927	119035	2802	1237	1201	797.0
1928	120509	2674	1379	1182	805.0
1929	121767	2582	1386	1233	847.0
1930	123077	2618	1343	1127	734.0

1931	124040	2506	1322	1061	611.0
1932	124840	2440	1309	982	465.0
1933	125579	2307	1342	1098	442.0
1934	126374	2396	1397	1302	514.0
1935	127250	2377	1393	1327	567.0
1936	128053	2355	1479	1369	643.0
1937	128825	2413	1450	1451	701.0
1938	129825	2496	1381	1331	651.0
1939	130880	2466	1388	1404	691.0
1940	131954	2559	1417	1596	754.0
1941	133121	2703	1398	1696	934.0
1942	133920	2989	1385	1772	1171.0
1943	134245	3104	1460	1577	1401.0
1944	132885	2939	1411	1452	1518.0
1945	132481	2858	1402	1613	1515.0
1946	140054	3411	1396	2291	1475.0
1947	143446	3817	1445	1992	1605.0
1948	146093	3637	1444	1811	1757.0
1949	148665	3649	1444	1580	1719.0
1950	151235	3632	1452	1667	1877.0
1951	153310	3823	1482	1595	2129.0
1952	155687	3913	1497	1539	2201.0
1953	158242	3965	1518	1546	2285.0
1954	161164	4078	1481	1490	2247.0
1955	164308	4104	1529	1531	2408.0
1956	167306	4218	1564	1585	2492.0

1957	170371	4308	1633	1518	2576.0
1958	173320	4255	1648	1451	2569.0
1959	176289	4245	1657	1494	2731.0
1960	179979	4258	1712	1523	2788.0
1961	182992	4268	1702	1548	2831.0
1962	185771	4167	1757	1577	3004.0
1963	188483	4098	1814	1654	3120.0
1964	191141	4027	1798	1725	3296.0
1965	193526	3760	1828	1800	3525.0
1966	195576	3606	1863	1857	3815.0
1967	197457	3521	1851	1927	3995.0
1968	199399	3502	1930	2069	4306.0
1969	201385	3600	1922	2145	4590.0
1970	203810	3731	1921	2163	4808.0

Sources: US Department of Commerce, Bureau of the Census. 1975. Historical Statistics of the United States: Colonial Times to 1970, Part 1, pp. 8, 49 & 224. US Department of Commerce, Bureau of the Census. 1968. Vital Statistics of the United States 1937, Part 1, p. 16.

Table 2: Population, Births, Deaths and Marriages and Gross National Product (GNP), 1921-1970, Canada.

YEAR	POPULA-TION('000)	BIRTHS ('000)	DEATHS ('000)	MARRIA-GES ('000)	GNP $ M
1921	8788	265	105	71	-
1922	8919	260	106	66	-
1923	9010	247	109	68	-
1924	9143	251	103	67	-
1925	9294	249	103	66	-
1926	9451	240	111	68	5146.0
1927	9637	241	109	71	5561.0
1928	9835	244	113	76	6050.0
1929	10029	242	118	79	6139.0
1930	10208	250	113	73	5720.0
1931	10376	247	108	68	4693.0
1932	10510	243	108	64	3814.0
1933	10633	230	106	66	3492.0
1934	10741	228	105	75	3969.0
1935	10845	228	110	79	4301.0
1936	10950	228	111	83	4634.0
1937	11045	228	118	90	5241.0
1938	11152	237	111	91	5272.0
1939	11267	238	113	106	5621.0
1940	11381	253	115	126	6713.0
1941	11507	264	119	125	8282.0

1942	11654	282	117	131	10265.0
1943	11795	293	123	114	11053.0
1944	11946	294	120	105	11848.0
1945	12072	301	117	111	11863.0
1946	12292	344	119	137	11885.0
1947	12551	373	122	130	13473.0
1948	13167	360	123	126	15509.0
1949	13475	367	125	124	16800.0
1950	13737	372	124	125	18491.0
1951	14050	381	126	128	21640.0
1952	14496	404	126	128	24588.0
1953	14886	418	128	131	25833.0
1954	15330	436	125	129	25918.0
1955	15736	443	128	128	28528.0
1956	16123	451	132	133	32058.0
1957	16677	469	137	133	33513.0
1958	17120	470	135	132	34777.0
1959	17522	479	140	132	36846.0
1960	17909	479	140	130	38359.0
1961	18271	476	141	128	39646.0
1962	18614	470	144	129	42927.0
1963	18964	466	147	131	45978.0
1964	19325	453	146	138	50280.0
1965	19678	419	149	146	55364.0
1966	20048	388	150	156	61828.0

1967	20412	371	150	166	66409.0
1968	20744	364	153	172	72586.0
1969	21028	370	154	182	79815.0
1970	21324	372	156	188	85685.0

Sources: Mitchell, B. R. 1993. International Historical Statistics. The Americas 1750-1988, pp. 58 & 60; Statistics Canada. Catalogue Nos. 82-552, 82-553, 82-548 & 13-531.

Table 3: Population, Births, Deaths and Marriages and Net National Income (NNI) Per Capita, 1900-1970, England & Wales.

YEAR	POPULA-TION('000)	BIRTHS ('000)	DEATHS ('000)	MARRIA-GES ('000)	NNI (pds)
1900	-	927	588	257	43.0
1901	-	930	552	259	42.0
1902	-	941	536	262	42.0
1903	-	945	515	261	42.0
1904	-	945	550	258	41.0
1905	-	929	520	261	42.0
1906	-	935	531	271	44.0
1907	-	918	524	276	45.0
1908	-	940	520	265	43.0
1909	-	914	518	261	44.0
1910	-	897	483	268	45.0
1911	-	881	528	275	47.0
1912	-	873	487	284	48.0
1913	-	882	505	287	50.0
1914	-	879	517	294	51.0
1915	-	815	562	361	59.0
1916	-	786	508	280	68.0
1917	-	668	499	259	86.0
1918	-	663	612	287	102.0
1919	-	692	504	369	106.0
1920	-	958	466	380	116.0
1921	-	849	459	321	100.0

1922	-	780	487	300	87.0
1923	-	758	445	292	83.0
1924	-	730	473	296	84.0
1925	-	711	473	296	90.0
1926	-	695	454	280	85.0
1927	-	654	485	308	89.0
1928	-	660	460	303	89.0
1929	-	644	532	313	91.0
1930	-	649	455	315	90.0
1931	-	632	492	312	81.0
1932	-	614	484	307	78.0
1933	-	580	496	318	78.0
1934	-	598	477	342	84.0
1935	-	599	477	350	87.0
1936	-	605	496	355	91.0
1937	-	611	510	359	96.0
1938	-	621	479	362	101.0
1939	-	614	500	440	104.0
1940	-	590	582	471	124.0
1941	-	579	535	389	147.0
1942	-	652	480	370	160.0
1943	-	684	501	296	168.0
1944	-	751	492	303	169.0
1945	-	680	488	398	166.0
1946	-	821	492	386	166.0
1947	-	881	518	401	175.0

1948	43502	775	470	397	193.0
1949	43785	731	511	375	204.0
1950	44020	697	510	358	214.0
1951	44020	678	549	361	236.0
1952	44166	674	497	349	253.0
1953	44301	684	504	345	270.0
1954	44480	674	502	342	286.0
1955	44623	668	519	358	305.0
1956	44821	700	521	353	327.0
1957	45043	723	514	347	344.0
1958	45244	741	527	340	357.0
1959	45504	749	528	340	374.0
1960	45775	785	526	344	400.0
1961	46196	811	552	347	422.0
1962	46640	839	557	348	437.0
1963	46901	854	572	351	463.0
1964	47219	876	535	359	497.0
1965	47540	863	549	371	529.0
1966	47824	850	564	384	-
1967	48113	832	546	386	-
1968	48346	819	573	408	-
1969	48554	798	579	397	-
1970	48680	784	573	415	-

Sources: Mitchell, B. R. 1980. International Historical Statistics, Europe 1750-1975, p.110; Mitchell, B. R. 1975. International Historical Statistics, Europe 1750-1970, pp. 96 & 100; Feinstein, C. H. 1976. Statistical Tables of National Income, Expenditure and Output of the U.K. 1855-1965, p. T42. United Nations, 1979. Demographic Yearbook 1977, Historical Supplement. New York.

Table 4: Population, Births, Deaths and Marriages and Net National Product (NNP), 1900-1970, Switzerland

YEAR	POPULA-TION('000)	BIRTHS ('000)	DEATHS ('000)	MARRIA-GES ('000)	NNP (Franc)M
1900	-	94	64	26	-
1901	-	97	60	25	-
1902	-	96	58	25	-
1903	-	94	60	25	-
1904	-	95	61	26	-
1905	-	95	62	26	-
1906	-	96	59	27	-
1907	-	95	59	28	-
1908	-	96	58	28	-
1909	-	94	59	27	-
1910	-	94	56	27	-
1911	-	91	60	28	-
1912	-	92	54	28	-
1913	-	90	55	26	-
1914	-	87	54	22	-
1915	-	75	52	20	-
1916	-	74	51	22	-
1917	-	72	53	23	-
1918	-	73	75	26	-
1919	-	72	55	31	-
1920	-	81	56	35	-

1921	-	81	50	33	-
1922	-	76	50	30	-
1923	-	76	46	30	-
1924	-	74	49	29	-
1925	-	73	48	28	-
1926	-	72	46	28	-
1927	-	70	49	29	-
1928	-	70	48	30	-
1929	-	69	50	31	10.0
1930	-	70	47	32	10.0
1931	-	68	49	32	9.2
1932	-	69	50	32	8.1
1933	-	68	47	32	8.2
1934	-	67	47	32	8.1
1935	-	66	50	30	8.0
1936	-	65	48	30	8.0
1937	-	62	47	30	8.8
1938	-	64	49	31	8.9
1939	-	64	49	32	9.0
1940	-	64	51	32	9.7
1941	-	72	47	36	10.6
1942	-	79	47	37	11.5
1943	-	83	47	36	12.4
1944	-	86	52	35	13.0
1945	-	89	51	36	13.9

1946	-	89	50	39	15.4
1947	-	88	51	39	17.4
1948	4608	88	50	39	18.1
1949	4639	85	49	37	17.5
1950	4694	85	47	37	18.5
1951	4749	82	50	38	-
1952	4815	84	48	37	-
1953	4878	83	50	37	20.7
1954	4929	84	49	38	-
1955	4980	85	50	40	23.4
1956	5045	88	52	40	-
1957	5126	91	51	42	-
1958	5199	91	49	40	27.2
1959	5259	93	50	40	-
1960	5362	94	52	42	31.3
1961	5434	99	51	42	34.9
1962	5574	104	55	44	38.8
1963	5694	110	57	44	42.3
1964	5789	113	54	44	46.6
1965	5856	112	56	45	50.1
1966	5918	110	56	44	54.0
1967	5992	107	55	45	57.5
1968	6068	105	57	46	61.7
1969	6136	103	58	47	-
1970	6267	99	57	47	-

Sources: Mitchell, B. R. 1980. International Historical Statistics, Europe 1750-1975, p. 110; Mitchell, B. R. 1975. International Historical Statistics, Europe 1750-1970, pp. 96 & 100; United Nations, 1970. United Nations Yearbook of National Accounts Statistics, 1969, Vol. 1, p.679. United Nations, 1979. Demographic Yearbook 1977, Historical Supplement, New York.

Table 5: Population, Births, Deaths and Marriages and GNP, 1900-1970, Italy

YEAR	POPULA-TION('000)	BIRTHS ('000)	DEATHS ('000)	MARRIA-GES ('000)	GNP (lire)M
1900	-	1067	769	233	15.0
1901	-	1058	715	235	15.4
1902	-	1093	727	238	14.9
1903	-	1042	736	237	16.1
1904	-	1085	699	248	16.0
1905	-	1085	730	256	16.9
1906	-	1071	697	261	18.4
1907	-	1062	700	260	20.6
1908	-	1139	770	283	19.9
1909	-	1116	738	266	21.5
1910	-	1144	682	269	21.6
1911	-	1094	743	260	23.6
1912	-	1134	636	265	24.9
1913	-	1122	664	264	25.7
1914	-	1114	643	252	24.0
1915	-	1109	810	186	28.1
1916	-	882	855	106	40.5
1917	-	714	949	99	56.4
1918	-	655	1268	107	68.9
1919	-	771	676	333	81.3
1920	-	1158	682	509	123.9

1921	-	1163	670	439	116.1
1922	-	1176	690	365	124.1
1923	-	1155	655	334	135.5
1924	-	1124	663	307	143.0
1925	-	1110	670	296	179.6
1926	-	1095	680	303	188.8
1927	-	1094	640	303	162.2
1928	-	1072	646	285	164.2
1929	-	1038	667	288	163.3
1930	-	1093	577	303	143.9
1931	-	1026	609	276	124.4
1932	-	991	611	268	117.0
1933	-	996	574	290	109.5
1934	-	993	563	313	108.9
1935	-	997	595	288	121.2
1936	-	963	593	317	126.6
1937	-	992	618	377	156.7
1938	-	1037	615	325	165.9
1939	-	1040	591	323	181.2
1940	-	1046	607	314	209.7
1941	-	938	622	274	239.6
1942	-	926	644	287	296.7
1943	-	882	676	215	398.1
1944	-	815	680	215	739.2
1945	-	816	610	309	1402.0

1946	-	1036	545	416	3254.0
1947	-	1011	521	438	6995.0
1948	46381	1006	486	385	8014.0
1949	46733	937	482	360	8589.0
1950	47104	909	452	356	9475.0
1951	47417	864	485	331	-
1952	47666	847	478	337	-
1953	47957	842	476	343	-
1954	48299	871	442	360	-
1955	48633	869	447	367	-
1956	48920	874	498	364	-
1957	49181	879	484	365	-
1958	49475	870	458	374	-
1959	48831	901	455	381	-
1960	50198	910	481	388	-
1961	50523	930	468	397	-
1962	50843	937	509	406	-
1963	51198	960	516	420	-
1964	51600	1016	490	417	-
1965	51987	990	518	399	-
1966	52332	980	496	385	-
1967	52667	949	510	380	-
1968	52987	931	530	375	-
1969	53317	934	537	385	-
1970	53661	901	521	396	-

Sources: Sources: Mitchell, B. R. 1980. International Historical Statistics, Europe 1750-1975, p.108; Mitchell, B. R. 1975. International Historical Statistics, Europe 1750-1970, pp. 93, 98, 787 & 793. United Nations, 1979. Demographic Yearbook 1977, Historical Supplement, New York.

Table 6: Population, Births, Deaths and Marriages and GNP, 1921-1970, Japan

YEAR	POPULA-TION('000)	BIRTHS ('000)	DEATHS ('000)	MARRIA-GES ('000)	GNP (Yen) B
1921	56666	1991	1289	519	-
1922	57390	1969	1287	516	-
1923	58119	2043	1332	513	-
1924	58876	1999	1255	513	-
1925	59737	2086	1211	521	-
1926	60741	2104	1161	503	-
1927	61659	2061	1214	488	-
1928	62595	2136	1237	500	-
1929	63461	2077	1261	497	-
1930	64450	2085	1171	507	13.9
1931	65457	2103	1241	497	-
1932	66434	2183	1175	515	-
1933	67432	2121	1194	486	-
1934	68309	2044	1235	513	-
1935	69254	2191	1162	557	16.7
1936	70114	2102	1230	549	-
1937	70630	2181	1208	675	23.4
1938	71013	1928	1260	539	26.8
1939	71380	1902	1269	554	33.1
1940	71933	2116	1187	667	39.4
1941	72218	2277	1150	792	44.9

1942	72880	2234	1167	679	54.4
1943	73903	2254	1214	744	63.8
1944	74433	-	-	-	74.5
1945	72147	-	-	-	-
1946.	75750	-	-	-	474.0
1947	78101	2679	1138	934	1308.7
1948	80002	2682	951	954	2666.1
1949	81773	2697	945	842	3375.2
1950	83200	2338	905	715	3946.7
1951	84541	2138	839	672	5444.2
1952	85808	2005	765	677	6118.0
1953	86981	1868	773	682	7084.8
1954	88239	1770	721	698	7465.7
1955	89276	1731	694	715	8235.5
1956	90172	1665	724	716	9292.9
1957	90928	1567	752	773	10149.8
1958	91767	1653	684	827	10394.7
1959	92641	1626	690	847	12572.5
1960	93419	1606	707	866	14671.4
1961	94287	1589	696	890	17740.5
1962	95181	1619	710	928	19315.2
1963	96156	1660	671	938	-
1964	97182	1717	673	963	-
1965	98275	1824	700	955	-
1966	99036	1361	670	940	-

1967	100196	1936	675	953	-
1968	101331	1872	687	956	-
1969	102536	1890	694	984	-
1970	103720	1934	713	1029	-

Sources: Statistics Bureau, Management and Coordination Agency. 1995. Japan Statistical Yearbook, 1996, pp. 32 & 59; Bureau of Statistics, Office of the Prime Minister. 1964. Japan Statistical Yearbook, 1963, p.403.

Table 7: Population, Births, Deaths and Marriages, Germany (1900-1943), West Germany (1946-1970)

YEAR	POPULATION ('000)	BIRTHS ('000)	DEATHS ('000)	MARRIAGES ('000)
1900	-	1996	1236	476
1901	-	2032	1174	468
1902	-	2025	1122	457
1903	-	1953	1171	463
1904	-	2026	1163	478
1905	-	1987	1194	486
1906	-	2022	1112	499
1907	-	2000	1117	504
1908	-	2015	1135	501
1909	-	1978	1094	494
1910	-	1925	1046	496
1911	-	1871	1131	513
1912	-	1870	1030	523
1913	-	1839	1005	513
1914	-	1819	1291	461
1915	-	1383	1450	278
1916	-	1029	1298	279
1917	-	912	1345	308
1918	-	927	1606	353
1919	-	1261	978	844
1920	-	1599	933	895

1921	-	1581	870	740
1922	-	1425	890	691
1923	-	1318	867	588
1924	-	1291	767	446
1925	-	1311	753	489
1926	-	1245	743	490
1927	-	1179	765	545
1928	-	1200	747	595
1929	-	1164	815	597
1930	-	1144	719	570
1931	-	1048	734	523
1932	-	993	708	517
1933	-	971	738	639
1934	-	1198	725	740
1935	-	1264	792	651
1936	-	1279	796	610
1937	-	1277	794	620
1938	-	1349	799	645
1939	-	1413	854	774
1940	-	1402	889	613
1941	-	1308	846	505
1942	-	1056	848	525
1943	-	1125	853	514
1944	-	-	-	-
1945	-	-	-	-

1946	-	733	588	400
1947	-	781	575	482
1948	48299	806	515	525
1949	49188	833	517	506
1950	49986	813	529	536
1951	50531	796	544	522
1952	50843	799	546	483
1953	51386	796	578	462
1954	51875	816	555	453
1955	52363	820	582	462
1956	52995	856	599	478
1957	53649	892	615	483
1958	54282	904	597	494
1959	54882	952	606	504
1960	55423	969	643	521
1961	56227	1013	628	530
1962	56947	1019	645	531
1963	57864	1054	673	508
1964	58290	1065	644	506
1965	59041	1044	678	492
1966	59676	1050	686	485
1967	59872	1019	687	483
1968	60165	970	734	444
1969	60842	903	744	447
1970	60714	811	735	445

Source: Mitchell, B. R. 1980. International Historical Statistics, Europe 1750-1975, p. 108. Mitchell, B. R. 1975. International Historical Statistics, Europe 1750-1970, pp. 92 & 98. United Nations, 1979. Demographic Yearbook 1977, Historical Supplement, New York.

Table 8: Population, Births, Deaths and Marriages, 1900-1970, France

YEAR	POPULATI-ON ('000)	BIRTHS ('000)	DEATHS ('000)	MARRIA-GES ('000)
1900	-	827	853	299
1901	-	857	785	303
1902	-	845	761	295
1903	-	827	754	296
1904	-	818	761	299
1905	-	807	770	303
1906	-	807	780	306
1907	-	773	792	314
1908	-	792	744	316
1909	-	770	755	308
1910	-	774	703	308
1911	-	742	775	308
1912	-	750	692	312
1913	-	746	702	299
1914	-	753	770	205
1915	-	480	745	86
1916	-	382	695	125
1917	-	410	710	180
1918	-	470	865	202
1919	-	504	737	553
1920	-	834	671	623
1921	-	812	693	456

1922	-	760	688	385
1923	-	761	666	355
1924	-	753	679	355
1925	-	770	708	353
1926	-	768	713	345
1927	-	744	676	336
1928	-	749	674	339
1929	-	730	739	334
1930	-	750	649	342
1931	-	734	679	327
1932	-	722	660	315
1933	-	679	660	316
1934	-	678	634	299
1935	-	640	658	285
1936	-	631	642	280
1937	-	618	629	274
1938	-	612	647	274
1939	-	612	643	258
1940	-	559	738	177
1941	-	520	673	226
1942	-	573	654	267
1943	-	613	624	219
1944	-	627	664	205
1945	-	643	641	393
1946	-	840	542	517

1947	-	867	534	427
1948	41044	867	510	371
1949	41400	869	570	341
1950	41736	858	530	331
1951	42056	823	562	320
1952	42360	819	521	314
1953	42652	801	553	308
1954	43057	807	515	314
1955	43428	802	523	313
1956	43843	803	542	294
1957	44311	813	528	310
1958	44789	809	497	312
1959	45240	829	506	321
1960	45684	816	517	320
1961	46163	835	497	315
1962	46998	829	538	317
1963	47816	865	554	339
1964	48310	874	517	347
1965	48758	862	540	346
1966	49164	860	526	340
1967	49723	838	540	346
1968	50105	833	551	357
1969	50315	840	571	381
1970	50768	848	540	394

Sources: Mitchell, B. R. 1980. International Historical Statistics. Europe 1750-1975, p. 107. Mitchell, B. R. 1975. International Historical

Statistics, Europe 1750-1970, pp. 91 & 97. United Nations, 1979.
Demographic Yearbook 1977, Historical Supplement, New York.

Table 9: Population, Births, Deaths and Marriages, 1921-1970, Yugoslavia

YEAR	POPULATION ('000)	BIRTHS ('000)	DEATHS ('000)	MARRIAGES ('000)
1921	-	423	252	157
1922	-	421	254	132
1923	-	433	253	130
1924	-	443	255	115
1925	-	437	239	123
1926	-	459	245	124
1927	-	452	276	124
1928	-	438	273	121
1929	-	453	286	128
1930	-	489	261	138
1931	-	470	277	126
1932	-	466	272	111
1933	-	452	244	112
1934	-	461	249	100
1935	-	442	249	110
1936	-	436	241	110
1937	-	424	242	118
1938	-	411	240	122
1939	-	404	233	124
1940	-	-	-	-
1941	-	-	-	-
1942	-	-	-	-

1945	-	-	-	-
1946	-	-	-	-
1947	-	417	200	206
1948	15901	447	214	204
1949	16133	484	217	184
1950	16346	494	212	186
1951	16588	447	235	170
1952	16798	499	198	176
1953	17048	484	212	168
1954	17284	494	188	172
1955	17519	471	200	163
1956	17685	460	198	156
1957	17859	427	190	155
1958	18018	432	167	170
1959	18214	424	181	164
1960	18402	433	183	168
1961	18612	422	167	169
1962	18819	413	187	163
1963	19029	407	170	158
1964	19222	401	181	167
1965	19434	408	171	174
1966	19644	400	160	169
1967	19840	390	174	169
1968	20029	381	174	169
1969	20209	382	187	174

1970	20371	363	182	183

Sources: Mitchell, B. R. 1980. International Historical Statistics, Europe 1750-1975, p. 110. Mitchell, B. R. 1975. International Historical Statistics, Europe 1750-1970, pp. 96 & 100. United Nations, 1979. Demographic Yearbook 1977, Historical Supplement, New York.

Table 10: Population, Births, Deaths and Marriages, 1921-1970, Poland

YEAR	POPULATION ('000)	BIRTHS ('000)	DEATHS ('000)	MARRIAGES ('000)
1921	-	890	568	317
1922	-	983	555	319
1923	-	1015	494	287
1924	-	1000	519	269
1925	-	1037	492	239
1926	-	989	533	257
1927	-	958	525	259
1928	-	984	505	295
1929	-	988	520	301
1930	-	1016	490	300
1931	-	966	495	273
1932	-	932	487	270
1933	-	869	466	274
1934	-	882	480	277
1935	-	877	471	280
1936	-	892	483	284
1937	-	856	482	276
1938	-	850	480	279
1939	-	-	-	-
1940	-	-	-	-
1941	-	-	-	-
1942	-	-	-	-

1945	-	-	-	-
1946	-	-	-	-
1947	-	630	271	-
1948	23980	702	268	-
1949	24410	719	284	274
1950	24824	763	289	267
1951	25271	784	312	270
1952	25753	779	287	268
1953	26255	779	267	262
1954	26761	778	276	263
1955	27281	794	277	259
1956	27815	780	250	260
1957	28310	782	269	257
1958	28770	756	241	264
1959	29240	723	252	277
1960	29561	661	224	244
1961	29965	628	228	236
1962	30324	600	239	228
1963	30691	588	230	220
1964	31161	563	236	231
1965	31496	546	232	200
1966	31698	530	233	226
1967	31944	520	248	238
1968	32426	524	244	258
1969	32555	531	263	270

1970	32526	546	267	280

Sources: Mitchell, B. R. 1980. International Historical Statistics, Europe 1750-1975, p. 109. Mitchell, B. R. 1975. International Historical Statistics, Europe 1750-1970, pp. 94 & 99. United Nations, 1979. Demographic Yearbook 1977, Historical Supplement, New York.

Table 11: Crude Birth Rates of Selected Countries

YEAR	USA	CANADA	ENGLAND & WALES	JAPAN
1921	28.1	29.3	22.4	35.1
1922	26.2	28.3	20.4	34.3
1923	26.0	26.7	19.7	35.2
1924	26.1	26.7	18.8	33.9
1925	25.1	26.1	18.3	34.9
1926	24.2	24.7	17.8	34.6
1927	23.5	24.3	16.6	33.4
1928	22.2	24.1	16.7	34.1
1929	21.2	23.5	16.3	32.7
1930	21.3	23.9	16.3	32.4
1931	20.2	23.2	15.8	32.1
1932	19.5	22.5	15.3	32.9
1933	18.4	21.0	14.4	31.5
1934	19.0	20.7	14.8	29.9
1935	18.7	20.5	14.7	31.6
1936	18.4	20.3	14.8	30.0
1937	18.7	20.1	14.9	30.9
1938	19.2	20.7	15.1	27.2
1939	18.8	20.6	14.8	26.6
1940	19.4	21.6	14.1	29.4
1941	20.3	22.4	13.9	31.8
1942	22.2	23.5	15.6	30.9

1943	22.7	24.2	16.2	30.9
1944	21.2	24.0	17.7	-
1945	20.4	24.3	15.9	-
1946	24.1	27.2	19.2	-
1947	26.6	28.9	20.5	34.3
1948	24.9	27.3	17.8	33.5
1949	24.5	27.3	16.7	33.0
1950	24.1	27.1	15.8	28.1
1951	24.9	27.2	15.5	25.3
1952	25.1	27.9	15.3	23.4
1953	25.0	28.1	15.5	21.5
1954	25.3	28.5	15.2	20.0
1955	25.0	28.2	15.0	19.4
1956	25.2	28.0	15.7	18.4
1957	25.3	28.2	16.1	17.2
1958	24.5	27.5	16.4	18.0
1959	24.0	27.4	16.5	17.5
1960	23.7	26.8	17.1	17.2
1961	23.3	26.1	17.6	16.9
1962	22.4	25.3	18.0	17.0
1963	21.7	24.6	18.2	17.3
1964	21.0	23.5	18.5	17.7
1965	19.4	21.3	18.1	18.6
1966	18.4	19.4	17.8	13.7
1967	17.8	18.2	17.3	19.4

1968	17.5	17.6	16.9	18.6
1969	17.8	17.6	16.4	18.5
1970	18.4	17.5	16.0	18.8

Sources: US Department of Commerce, Bureau of the Census, 1975. Historical Statistics of the United States: Colonial Times to 1970, Pt. 1, p. 49; Statistics Canada. Catalogue No. 82-553; B. R. Mitchell, 1992. European Historical Statistics 1750-1988, pp. 106 and 113; Statistics Bureau, Management and Coordination Agency. 1995. Japan Statistical Yearbook 1996, p. 59.

Table 12: Total Fertility Rates of Selected Countries

YEAR	USA	CANADA	ENGLAND & WALES	JAPAN
1921	-	3.54	-	-
1922	-	3.40	-	-
1923	-	3.23	-	-
1924	-	3.22	-	-
1925	-	3.13	-	-
1926	-	3.36	-	-
1927	-	3.32	-	-
1928	-	3.29	-	-
1929	-	3.22	-	-
1930	-	3.28	-	-
1931	-	3.20	-	-
1932	-	3.08	-	-
1933	-	2.86	-	-
1934	-	2.80	-	-
1935	-	2.76	-	-
1936	-	2.70	-	-
1937	-	2.65	-	-
1938	-	2.70	-	-
1939	-	2.65	-	-
1940	2.30	2.77	-	-
1941	2.40	2.83	-	-
1942	2.63	2.96	-	-

1943	2.72	3.04	-	-
1944	2.57	3.01	-	-
1945	2.49	3.02	-	-
1946	2.94	3.37	2.67	-
1947	3.27	3.60	2.70	4.54
1948	3.11	3.44	2.39	4.40
1949	3.11	3.46	2.26	4.32
1950	3.09	3.46	2.19	3.65
1951	3.27	3.50	2.15	3.26
1952	3.36	3.64	2.16	2.98
1953	3.42	3.72	2.22	2.69
1954	3.54	3.83	2.21	2.48
1955	3.58	3.83	2.22	2.37
1956	3.69	3.86	2.36	2.22
1957	3.77	3.93	2.45	2.04
1958	3.70	3.88	2.52	2.11
1959	3.67	3.94	2.54	2.04
1960	3.65	3.90	2.67	2.00
1961	3.63	3.84	2.77	1.96
1962	3.47	3.76	2.83	1.98
1963	3.33	3.67	2.85	2.00
1964	3.21	3.50	2.89	2.05
1965	2.93	3.15	2.81	2.14
1966	2.74	2.81	2.74	1.58
1967	2.57	2.60	2.63	2.23

1968	2.48	2.45	2.55	2.13
1969	2.47	2.41	2.45	2.13
1970	2.48	2.33	2.38	2.13

Sources: US Department of Commerce, Bureau of the Census. 1975. Historical Statistics of the United States: Colonial Times to 1970, Pt. 1, p. 50; Statistics Canada. Catalogue No. 82-553; Statistics Bureau, Management and Coordination Agency. 1995. Japan Statistical Yearbook 1996, p.62.